

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 10.05.96  
Test oil : ISO 4113

Combination No. : 0 402 648 920

Injection pump  
Pump designation : PE8P120A320LS7844  
EP type number : 0 412 628 860

Governor  
Governor design. : RQV350...1050PA870  
: -16  
Governor no. : 0 421 813 953

Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM442 LA  
Power KW : 370.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 2.5  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 8

### CRT ZERO POSITION

Rack travel in mm : 14.30  
Tolerance mm : + 0.10

### BASIC SETTING

Rated speed rpm : 600

Rack travel in mm	:	14.30
Tolerance mm	:	+ 0.10
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	257.5
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 4.0
Spred		
cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	9.0
Rated speed rpm	:	350
Rack travel in mm	:	5.00
Tolerance mm	:	+ 0.10
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	19.0
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 6.0
Spred		
cm <sup>3</sup> /1000 strokes	:	6.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	:	350
guide sleeve		
travel mm	:	1.55
Tolerance mm	:	+ 0.25
Rated speed rpm	:	1108
guide sleeve		
travel mm	:	8.05
Tolerance mm	:	+ 0.25
Rated speed rpm	:	570
guide sleeve		
travel mm	:	3.55
Tolerance mm	:	+ 0.25
Rated speed rpm	:	900
guide sleeve		
travel mm	:	5.65
Tolerance mm	:	+ 0.25

Rated speed rpm	:	1204
guide sleeve		
travel mm	:	10.05
Tolerance mm	:	+ 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm	:	1125
Rack travel in mm	:	17.25
Tolerance mm	:	+ 0.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	600
Aneroid pressure		
hPa	:	1100
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	257.5
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 4.0
Spred		
cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	9.0

##### CONTROL LEVER

control lever		
position degree	:	119.0
tolerance degree	:	+ 4.0

##### RATED SPEED

rack travel mm	:	14.30
Rated speed rpm	:	1095
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00
Rated speed rpm	:	1195
Tolerance 1/min	:	+ 15
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	1300

##### LOW IDLE

control lever		
position degree	:	67.0
tolerance degree	:	+ 4.0

**Testing:**

Rated speed rpm : 350  
 rack travel mm : 5.00  
 Tolerance mm : + - 0.10

Rated speed rpm : 250

CRT mm min. : > 6.60

Rated speed rpm : 450

**TORQUE CONTROL**

Rated speed rpm : 600  
 rack travel mm : 14.30  
 Tolerance mm : + - 0.10

Rated speed rpm : 1050  
 rack travel mm : 15.30  
 Tolerance mm : + - 0.10

Rated speed rpm : 800  
 rack travel mm : 15.30  
 Tolerance mm : + - 0.10

**ANEROID/ALTITUDE COMPENSATOR TEST****MEASUREMENT**

Pressure hPa : 290  
 rack travel mm : -5.50  
 Tolerance mm : + - 0.05

Pressure hPa : 780  
 rack travel mm : -1.30  
 Tolerance mm : + - 0.10

Pressure hPa : 1450  
 rack travel mm : 0.30  
 Tolerance mm : + - 0.05

Pressure hPa : 1550  
 rack travel mm : 0.70  
 Tolerance mm : + - 0.10

**START CUT-OUT**

Rated speed rpm : > 100  
 Rated speed rpm : < 270

Check speed 1/min : > 80

Check speed 1/min : < 290

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure hPa : 1800  
 Rated speed rpm : 1050  
 Del. quantity cm<sup>3</sup>/1000 strokes : 272.0  
 cm<sup>3</sup>/1000 strokes : + - 1.5  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.5

Aneroid pressure hPa : 1800  
 Rated speed rpm : 800  
 Del. quantity cm<sup>3</sup>/1000 strokes : 274.0  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 5.0

Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 130.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

**BREAKAWAY**

Rack travel in mm : 14.30  
 Rated speed rpm : 1095  
 Tolerance 1/min : + - 5

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
 Del. quantity cm<sup>3</sup>/1000 strokes : 270.0  
 cm<sup>3</sup>/1000 strokes : + - 10.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 14.0

**LOW IDLE**

Rated speed rpm : 350  
 Del. quantity cm<sup>3</sup>/1000 strokes : 19.0

cm3/1000 strokes : + 3.0  
Check tolerance  
cm3/1000S. : + 6.0  
Spred  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 10.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 03.01.95  
Test oil : ISO 4113

Combination No. : 0 402 676 818

Injection pump  
Pump designation : PE6P120A320RS7326  
EP type number : 0 412 626 915

Governor  
Governor design. : RSV275...1000P1A573  
Governor no. : 0 421 833 429

Cust. part No. : 1265070/3

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Customer-spec. information  
Customer : DAF  
Motor : WS 268 L AG  
Power KW : 268.0

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### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.35  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 14.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 14.95

Tolerance mm	: + 0.05
Del. quantity cm <sup>3</sup> /1000 strokes	: 235.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spread cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
Rated speed rpm	: 275
Rack travel in mm	: 6.00
Tolerance mm	: + 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: + 17.0
cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spread cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
governor spring pre-tension click setting x	: 4.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 850
Aneroid pressure hPa	: 1000
Del. quantity cm <sup>3</sup> /1000 strokes	: 235.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spread	

cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever position degree	: 107.0
tolerance degree	: + 4.0

##### RATED SPEED

rack travel mm	: 13.95
Rated speed rpm	: 1032
Tolerance 1/min	: + 8

rack travel mm	: 4.00
Rated speed rpm	: 1100
Tolerance 1/min	: + 15

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1250

rack travel mm	: 4.00
Rated speed rpm	: 1110

##### LOW IDLE

control lever position degree	: 72.0
tolerance degree	: + 4.0

Setting point w/out bumper spring

Rated speed rpm	: 275
rack travel mm	: 5.00

Testing:

Rated speed rpm	: 275
rack travel mm	: 6.00
Tolerance mm	: + 0.10

rack travel mm	: 2.00
Rated speed rpm	: 360
Tolerance 1/min	: + 30

##### TORQUE CONTROL

Rated speed rpm	: 850
rack travel mm	: 14.95
Tolerance mm	: + 0.05

Rated speed rpm : 1000  
rack travel mm : 14.90  
Tolerance mm :  $\pm$  0.10

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#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 14.95  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 12.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 600

Pressure hPa : 490  
rack travel mm : 14.25  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 280  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.10

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#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

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#### BREAKAWAY

Rack travel in mm : 13.95  
Rated speed rpm : 1032  
Tolerance 1/min :  $\pm$  8

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#### LOW IDLE

Rated speed rpm : 275  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

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adjustment instructions.  
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Edition : 07.04.95  
Test oil : ISO 4113

Combination No. : 0 402 746 651

Injection pump  
Pump designation : PES6P120A320RS7374  
EP type number : 0 412 726 938

Governor  
Governor design. : RQV350...900PA935-1  
Governor no. : 0 421 813 820

Cust. part No. : 15 550 98 4T

**Customer-spec. information**

Customer : BAUDOUIN  
Motor : 6P15-2  
Power KW : 441.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 150  
Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 074

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 1000

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 900

Rack travel in mm : 12.05  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 340.0  
  
 cm<sup>3</sup>/1000 strokes : + 1.0  
  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
  
 Rated speed rpm : 350  
  
 Rack travel in mm : 4.90  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 20.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 1.53  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 960  
 guide sleeve  
 travel mm : 8.69  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 733  
 guide sleeve  
 travel mm : 5.92  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 369  
 guide sleeve  
 travel mm : 1.82  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 419  
 guide sleeve  
 travel mm : 2.54  
 Tolerance mm : + 0.25

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 3.33  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 1150  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1010  
  
 Rack travel in mm : 11.00  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 340.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 123.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.00  
 Rated speed rpm : 945  
 Tolerance 1/min : + 5  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1015  
 Tolerance 1/min : + 15  
  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1150

LOW IDLE

control lever  
position degree : 87.0  
tolerance degree :  $\pm$  4.0

cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 4.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 250

CRT mm min. : > 7.50

Rated speed rpm : 400

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End of test specification sheet

#### TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 12.05  
Tolerance mm :  $\pm$  0.05

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#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 290

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#### BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 945  
Tolerance 1/min :  $\pm$  5

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#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
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Edition : 10.05.96  
Test oil : ISO 4113

Combination No. : 0 402 746 952

Injection pump  
Pump designation : PES6P120A320RS7294  
EP type number : 0 412 726 895

Governor  
Governor design. : RQV275...1000PA1001  
: -2  
Governor no. : 0 421 813 989

Cust. part No. : CCEP-5136 66-214

### Customer-spec. information

Customer : RENAULT V.I.  
Motor : MIDR 063540 N/3  
Power KW : 283.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.55  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 19.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Barrel no. : 1

### CRT ZERO POSITION

Rack travel in mm : 13.35  
Tolerance mm : + 0.05

### BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : -7.25  
Tolerance mm : + 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 74.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 600

Del. quantity  
cm<sup>3</sup>/1000 strokes : 290.0

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spread  
cm<sup>3</sup>/1000 strokes : 10.0

Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

Rated speed rpm : 300

Rack travel in mm : -8.20  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 31.0

cm<sup>3</sup>/1000 strokes : + 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spread

cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve  
travel mm : 1.66  
Tolerance mm : + 0.10

Rated speed rpm : 1086  
guide sleeve  
travel mm : 8.46  
Tolerance mm : + 0.10

Rated speed rpm : 773  
guide sleeve  
travel mm : 6.09  
Tolerance mm : + 0.20

Rated speed rpm : 343  
guide sleeve  
travel mm : 2.33  
Tolerance mm : + 0.20

Rated speed rpm : 393  
guide sleeve  
travel mm : 2.99  
Tolerance mm : + 0.20

Rated speed rpm : 490  
guide sleeve  
travel mm : 3.81  
Tolerance mm : + 0.20

Rated speed rpm : 1370  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

#### GUIDE SLEEVE POSITION

Rated speed rpm : 1200

Rack travel in mm : 12.20  
Tolerance mm : + 1.30

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 290.0

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spread

cm<sup>3</sup>/1000 strokes : 10.0

Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

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**CONTROL LEVER**

control lever  
position degree : 301.0  
tolerance degree :  $\pm$  4.0

**RATED SPEED**

rack travel mm : -1.00  
Rated speed rpm : 1070  
Tolerance 1/min :  $\pm$  5

rack travel mm : -9.30  
Rated speed rpm : 1205  
Tolerance 1/min :  $\pm$  15

rack travel mm : -12.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1350

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**LOW IDLE**

control lever  
position degree : 247.0  
tolerance degree :  $\pm$  4.0

**Testing:**

Rated speed rpm : 300  
rack travel mm : -8.20  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200

CRT mm max. : < -6.80

Rated speed rpm : 365

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**TOPQUE CONTROL**

Rated speed rpm : 600

Rated speed rpm : 1000  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 600  
rack travel mm : -4.50  
Tolerance mm :  $\pm$  0.10

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**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 1000

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -3.80  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 240  
rack travel mm : -2.60  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 480  
rack travel mm : -0.75  
Tolerance mm :  $\pm$  0.05

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**START CUT-OUT**

Rated speed rpm : > 100  
Rated speed rpm : < 195

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 215

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 270.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  7.0

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  5.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  8.0  
Spread  
cm<sup>3</sup>/1000 strokes : 12.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 16.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1070  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 14.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 31.0  
cm<sup>3</sup>/1000 strokes : + - 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Speed  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.03.95  
Test oil : ISO 4113

Combination No. : 0 402 746 993

Injection pump  
Pump designation : PES6P120A720LS7341  
EP type number : 0 412 726 913

Governor  
Governor design. : RQV350...1150PA1159  
Governor no. : 0 421 814 099

Cust. part No. : 0250742302

### Customer-spec. information

Customer : MTU  
Motor : 6-R-183  
Power KW : 440.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. L/h : 90  
Tolerance L/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 6

### BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 10.20  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 273.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 9.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350

Rack travel in mm : 4.10  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.0  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 16.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 1.53  
 Tolerance mm : + - 0.15

Rated speed rpm : 1206  
 guide sleeve  
 travel mm : 8.35  
 Tolerance mm : + - 0.20

Rated speed rpm : 950  
 guide sleeve  
 travel mm : 5.78  
 Tolerance mm : + - 0.25

Rated speed rpm : 416  
 guide sleeve  
 travel mm : 2.77  
 Tolerance mm : + - 0.25

Rated speed rpm : 466  
 guide sleeve  
 travel mm : 3.35

Tolerance mm : + - 0.25  
 Rated speed rpm : 600  
 guide sleeve  
 travel mm : 3.83  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1308  
 guide sleeve  
 travel mm : 10.00  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1410  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1260  
 Rack travel in mm : 13.00  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure  
 hPa : 800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 273.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 9.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever  
 position degree : 120.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 13.50  
 Rated speed rpm : 1195  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1300  
 Tolerance 1/min : + - 15

rack travel mm : 0.75

Tolerance mm : + 0.75  
Rated speed rpm : 1400

---

#### LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 4.10  
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 5.60

Rated speed rpm : 425

---

#### TORQUE CONTROL

Rated speed rpm : 600  
rack travel mm : 10.20  
Tolerance mm : + 0.05

Rated speed rpm : 1150  
rack travel mm : 14.50  
Tolerance mm : + 0.10

Rated speed rpm : 800  
rack travel mm : 14.50  
Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 6.20  
Tolerance mm : + 0.20

Pressure hPa : 200  
rack travel mm : 7.10  
Tolerance mm : + 0.05

Pressure hPa : 400  
rack travel mm : 9.10  
Tolerance mm : + 0.10

Pressure hPa : 1300  
rack travel mm : 11.70  
Tolerance mm : + 0.05

Pressure hPa : 1700  
rack travel mm : 13.80  
Tolerance mm : + 0.10

---

#### START CUT-OUT

Rated speed rpm : > 220  
Rated speed rpm : < 270

Check  
speed 1/min : > 200  
Check  
speed 1/min : < 290

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 1150  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 344.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 13.50  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 420.0  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 24.0

---

LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Speed  
cm<sup>3</sup>/1000 strokes : 12.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 16.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 25.09.95  
Test oil : ISO 4113

Combination No. : 0 402 846 066

Injection pump  
Pump designation : PE6P110A320RS8036  
EP type number : 0 412 816 012

Governor  
Governor design. : RQV300...1200PA1043  
: -1  
Governor no. : 0 421 814 150

Cust. part No. : 11030925  
: -P02 v.02.95

### Customer-spec. information

Customer : VME  
Motor : TD73KFE  
Power KW : 173.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.10  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 182.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm <sup>3</sup> /1000S.	: + 3.0
Spred cm <sup>3</sup> /1000 strokes	: 7.0
Check tolerance cm <sup>3</sup> /1000S.	: 11.0
Rated speed rpm	: 300
Rack travel in mm	: 4.50
Tolerance mm	: + 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 24.0
cm <sup>3</sup> /1000 strokes	: + 2.0
Check tolerance cm <sup>3</sup> /1000S.	: + 5.0
Spred cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.19
Tolerance mm	: + 0.25
Rated speed rpm	: 1256
guide sleeve	
travel mm	: 8.23
Tolerance mm	: + 0.25
Rated speed rpm	: 857
guide sleeve	
travel mm	: 5.21
Tolerance mm	: + 0.25
Rated speed rpm	: 385
guide sleeve	
travel mm	: 1.98
Tolerance mm	: + 0.25
Rated speed rpm	: 435
guide sleeve	
travel mm	: 2.45
Tolerance mm	: + 0.25
Rated speed rpm	: 520
guide sleeve	
travel mm	: 3.04

Tolerance mm	: + 0.25
Rated speed rpm	: 1550
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1285
Rack travel in mm	: 16.50
Tolerance mm	: + 2.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: 1500
Del. quantity cm <sup>3</sup> /1000 strokes	: 182.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 3.0
Spred cm <sup>3</sup> /1000 strokes	: 7.0
Check tolerance cm <sup>3</sup> /1000S.	: 11.0

##### CONTROL LEVER

control lever	
position degree	: 49.0
tolerance degree	: + 4.0
control lever	
position degree	: 115.0
tolerance degree	: + 4.0

##### RATED SPEED

rack travel mm	: 10.10
Rated speed rpm	: 1245
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1345
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1450

##### LOW IDLE

control lever  
position degree : 80.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 14.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 4.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200

CRT mm min. :  $>$  6.60

Rated speed rpm : 340

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.10  
Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.10  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500

Pressure hPa : 740  
rack travel mm : 2.90  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 240  
rack travel mm : 0.25  
Tolerance mm :  $\pm$  0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1245  
Tolerance 1/min :  $\pm$  5

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 641

Injection pump  
Pump designation : PES6P120A320LS7337  
EP type number : 0 412 726 910

Governor  
Governor design. : RQV350...1100PA1200K  
Governor no. : 0 421 815 453

Cust. part No. : 1823959C91

---

Customer-spec. information  
Customer : NAVISTAR  
Motor : DTA-531  
Power KW : 205.0

---

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.90  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 15.00  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

---

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 14.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 213.0

cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Speed cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 325

Rack travel in mm : 6.90  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 30.5  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Speed cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 213.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Speed cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### CONTROL LEVER

control lever position degree : 119.0  
 tolerance degree : + 6.0

#### RATED SPEED

rack travel mm : 12.90  
 Rated speed rpm : 1155  
 Tolerance 1/min : + 15

rack travel mm : 4.00  
 Rated speed rpm : 1290  
 Tolerance 1/min : + 5

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1350

#### LOW IDLE

control lever position degree : 78.0  
 tolerance degree : + 6.0

#### Testing:

Rated speed rpm : 325  
 rack travel mm : 6.90  
 Tolerance mm : + 0.10

Rated speed rpm : 275  
 CRT mm min. : > 8.00  
 Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 14.45  
 Tolerance mm : + 0.05

Rated speed rpm : 650  
 rack travel mm : 12.80  
 Tolerance mm : + 0.10

Rated speed rpm : 1100  
 rack travel mm : 14.00  
 Tolerance mm : + 0.10

Rated speed rpm : 800  
 rack travel mm : 13.50  
 Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1000  
 Pressure hPa : 1200  
 rack travel mm : 14.45  
 Tolerance mm : + 0.05

## MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1000  
rack travel mm : 11.30  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1000

Pressure hPa : 755  
rack travel mm : 13.40  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 280  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.05

## START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  280

Check speed 1/min :  $>$  80  
Check speed 1/min :  $<$  290

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 197.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1000  
Del. quantity cm<sup>3</sup>/1000 strokes : 129.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0

## BREAKAWAY

Rack travel in mm : 12.90  
Rated speed rpm : 1155

Tolerance 1/min :  $\pm$  15

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00  
Tolerance mm :  $\pm$  1.00  
Del. quantity cm<sup>3</sup>/1000 strokes : 130.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  25.0

## LOW IDLE

Rated speed rpm : 325  
Del. quantity cm<sup>3</sup>/1000 strokes : 30.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spread cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 643

Injection pump  
Pump designation : PES6P120A320LS7362  
EP type number : 0 412 726 929

Governor  
Governor design. : RQV350...1100PA1201K  
Governor no. : 0 421 815 456

Cust. part No. : 1824681C91

Customer-spec. information  
Customer : NAVISTAR  
Motor : DTA-530  
Power KW : 245.0

**TEST BENCH REQUIREMENTS**

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

**BEGINNING OF DELIVERY**

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.90  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

**BASIC SETTING**

Rated speed rpm : 1000

Rack travel in mm : 14.65  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 278.5

cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

Rated speed rpm : 350

Rack travel in mm : 5.90

Tolerance mm : + 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 24.0

cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance

cm<sup>3</sup>/1000s. : + 5.0

Spred

cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance

cm<sup>3</sup>/1000s. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure

hPa : 1700

Del. quantity

cm<sup>3</sup>/1000 strokes : 278.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance

cm<sup>3</sup>/1000s. : + 4.0

Spred

cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance

cm<sup>3</sup>/1000s. : 12.0

#### CONTROL LEVER

control lever

position degree : 121.0

tolerance degree : + 6.0

#### RATED SPEED

rack travel mm : 13.50

Rated speed rpm : 1065

Tolerance 1/min : + 15

rack travel mm : 4.00

Rated speed rpm : 1175

Tolerance 1/min : + 5

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1225

#### LOW IDLE

control lever

position degree : 78.0

tolerance degree : + 6.0

#### Testing:

Rated speed rpm : 350

rack travel mm : 5.90

Tolerance mm : + 0.10

Rated speed rpm : 275

CRT mm min. : > 8.00

Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 1000

rack travel mm : 14.65

Tolerance mm : + 0.05

Rated speed rpm : 650

rack travel mm : 13.75

Tolerance mm : + 0.10

Rated speed rpm : 750

rack travel mm : 14.00

Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1000

Pressure hPa : 1700

rack travel mm : 14.65

Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -

Rated speed rpm : 1000

rack travel mm : 10.55

Tolerance mm : + 0.20

Rated speed rpm : 1000

Pressure hPa : 1130

rack travel mm : 13.50

Tolerance mm : + 0.20  
Pressure hPa : 420  
rack travel mm : 11.55  
Tolerance mm : + 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 280

Check speed 1/min : > 80  
Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1700  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 262.5  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.5  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 13.50  
Rated speed rpm : 1065  
Tolerance 1/min : + 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.70  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 168.0  
cm<sup>3</sup>/1000 strokes : + 20.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 25.0

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 644

Injection pump  
Pump designation : PES6P120A320LS7362  
EP type number : 0 412 726 929

Governor  
Governor design. : RQV350...1100PA1202K  
Governor no. : 0 421 815 457

Cust. part No. : 1824682C91

Customer-spec. information  
Customer : NAVISTAR  
Motor : DTA-530  
Power KW : 245.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.90  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 1.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 14.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 278.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 5.90

Tolerance mm : ± 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 24.5

cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance

cm<sup>3</sup>/1000S. : ± 5.0

Spread

cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance

cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure

hPa : 1800

Del. quantity

cm<sup>3</sup>/1000 strokes : 278.5

cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance

cm<sup>3</sup>/1000S. : ± 4.0

Spread

cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance

cm<sup>3</sup>/1000S. : 12.0

#### CONTROL LEVER

control lever

position degree : 118.0

tolerance degree : ± 6.0

#### RATED SPEED

rack travel mm : 13.05

Rated speed rpm : 1160

Tolerance 1/min : ± 15

rack travel mm : 4.00

Rated speed rpm : 1290

Tolerance 1/min : ± 5

rack travel mm : 0.50

Tolerance mm : ± 0.50

Rated speed rpm : 1350

#### LOW IDLE

control lever

position degree : 78.0

tolerance degree : ± 6.0

#### Testing:

Rated speed rpm : 350

rack travel mm : 5.90

Tolerance mm : ± 0.10

Rated speed rpm : 275

CRT mm min. : > 8.00

Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 1000

rack travel mm : 14.65

Tolerance mm : ± 0.05

Rated speed rpm : 650

rack travel mm : 12.80

Tolerance mm : ± 0.20

Rated speed rpm : 1100

rack travel mm : 14.15

Tolerance mm : ± 0.10

Rated speed rpm : 750

rack travel mm : 13.20

Tolerance mm : ± 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1000

Pressure hPa : 1800

rack travel mm : 14.65

Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -

Rated speed rpm : 1000

rack travel mm : 10.60

Tolerance mm : ± 0.20

Rated speed rpm : 1000  
Pressure hPa : 1220  
rack travel mm : 14.00  
Tolerance mm :  $\pm$  0.20  
  
Pressure hPa : 440  
rack travel mm : 11.85  
Tolerance mm :  $\pm$  0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 280  
  
Check speed 1/min : > 80  
Check speed 1/min : < 290

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1800  
Rated speed rpm : 750  
Del. quantity cm3/1000 strokes : 249.0  
cm3/1000 strokes :  $\pm$  3.0  
Check tolerance cm3/1000S. :  $\pm$  6.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1000  
Del. quantity cm3/1000 strokes : 155.5  
cm3/1000 strokes :  $\pm$  2.0  
Check tolerance cm3/1000S. :  $\pm$  4.0

---

#### BREAKAWAY

Rack travel in mm : 13.05  
Rated speed rpm : 1160  
Tolerance 1/min :  $\pm$  15

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.80

Tolerance mm :  $\pm$  0.50  
Del. quantity cm3/1000 strokes : 168.0  
cm3/1000 strokes :  $\pm$  20.0  
Check tolerance cm3/1000S. :  $\pm$  25.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity cm3/1000 strokes : 24.5  
cm3/1000 strokes :  $\pm$  3.0  
Check tolerance cm3/1000S. :  $\pm$  5.0  
Spread cm3/1000 strokes : 5.0  
Check tolerance cm3/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.10.96  
Test oil : ISO 4113

Combination No. : 9 400 030 721

Injection pump  
Pump designation : PES6A95D320/3RS2895  
EP type number : 9 410 037 238

Governor  
Governor design. : RSV475...1250A0C839R  
Governor no. :

Cust. part No. : 3929601

Customer-spec. information  
Customer : CDC  
Motor : 6BTAA  
Power KW : 130.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.70  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### Start of delivery blocking

\*NW after s.o.d. : 9.00  
Tolerance : + 0.10  
Check  
tolerance \*NW : + 0.29

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.70  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.5

cm3/1000 strokes : + 1.0  
 Check tolerance cm3/1000s. : + 3.0  
 Spread cm3/1000 strokes : 3.5  
 Check tolerance cm3/1000s. : 6.0  
 Rated speed rpm : 550  
 Rack travel in mm : 5.50  
 Tolerance mm : + 0.10  
 Del. quantity cm3/1000 strokes : 17.5  
 cm3/1000 strokes : + 2.0  
 Check tolerance cm3/1000s. : + 4.5  
 Spread cm3/1000 strokes : 3.5  
 Check tolerance cm3/1000s. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring pre-tension  
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure hPa : 900  
 Del. quantity cm3/1000 strokes : 107.5  
 cm3/1000 strokes : + 1.0  
 Check tolerance cm3/1000s. : + 3.0  
 Spread cm3/1000 strokes : 3.5  
 Check tolerance cm3/1000s. : 6.0

CONTROL LEVER

control lever position degree : 108.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.80  
 Rated speed rpm : 1325  
 Tolerance 1/min : + 5

rack travel mm : 5.80  
 Rated speed rpm : 1385  
 Tolerance 1/min : + 5

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1450

rack travel mm : 5.80  
 Rated speed rpm : 1385

LOW IDLE

control lever position degree : 78.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 550  
 rack travel mm : 5.00

Testing:

Rated speed rpm : 550  
 rack travel mm : 5.50  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 12.70  
 Tolerance mm : + 0.05

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 500  
Pressure hPa : 900

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.70  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500

Pressure hPa : 480  
rack travel mm : 12.20  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 350  
rack travel mm : 11.40  
Tolerance mm :  $\pm$  0.20

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 72.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

### BREAKAWAY

Rack travel in mm : 11.80  
Rated speed rpm : 1325  
Tolerance 1/min :  $\pm$  5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 121.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

---

### LOW IDLE

Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.96  
Test oil : ISO 4113

Combination No. : 9 400 030 730

Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215

Governor  
Governor design. : RSV475...1100A0C844R  
Governor no. : 9 420 034 710

Cust. part No. : 3928599

## Customer-spec. information

Customer : CDC  
Motor : 6BTA  
Power KW : 111.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 8.50  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.55  
Tolerance mm : + 0.05

Del. quantity \_\_\_\_\_  
 cm3/1000 strokes : 96.0  
 cm3/1000 strokes : + 1.0  
 Check tolerance \_\_\_\_\_  
 cm3/1000S. : + 3.0  
 Spreed  
 cm3/1000 strokes : 3.5  
 Check tolerance  
 cm3/1000S. : 6.0  
 Rated speed rpm : 475  
 Rack travel in mm : 5.50  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm3/1000 strokes : 22.0  
 cm3/1000 strokes : + 2.0  
 Check tolerance  
 cm3/1000S. : + 4.5  
 Spreed  
 cm3/1000 strokes : 3.5  
 Check tolerance  
 cm3/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm3/1000 strokes : 96.0  
 cm3/1000 strokes : + 1.0  
 Check tolerance  
 cm3/1000S. : + 3.0  
 Spreed  
 cm3/1000 strokes : 3.5

Check tolerance  
 cm3/1000S. : 6.0

##### CONTROL LEVER

control lever  
 position degree : 106.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.50  
 Rated speed rpm : 1155  
 Tolerance 1/min : + 5

rack travel mm : 6.00  
 Rated speed rpm : 1225  
 Tolerance 1/min : + 5

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1300

rack travel mm : 6.00  
 Rated speed rpm : 1225

##### LOW IDLE

control lever  
 position degree : 85.0  
 tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 475  
 rack travel mm : 5.00

##### Testing:

Rated speed rpm : 475  
 rack travel mm : 5.50  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 11.55  
 Tolerance mm : + 0.05

Rated speed rpm : 1000

rack travel mm : 12.50  
Tolerance mm : + - 0.10  
  
Rated speed rpm : 800  
rack travel mm : 12.60  
Tolerance mm : + - 0.20

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.90  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 600  
rack travel mm : 11.90  
Tolerance mm : + - 0.20

Pressure hPa : 360  
rack travel mm : 10.40  
Tolerance mm : + - 0.20

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 77.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

---

#### BREAKAWAY

Rack travel in mm : 10.50  
Rated speed rpm : 1155  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 15.0

---

#### LOW IDLE

Rated speed rpm : 475  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Speed  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.10.96  
Test oil : ISO 4113

Combination No. : 9 400 030 736

Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215

Governor  
Governor design. :  
Governor no. : 9 420 034 715

Cust. part No. : 3929769

**Customer-spec. information**

Customer : CDC  
Motor : 6BT  
Power KW : 88.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

**Start of delivery blocking**

\*NW after s.o.d. : 7.00  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 1200

Rack travel in mm : 9.55  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 80.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 425  
 Rack travel in mm : 5.10  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 18.5  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring pre-tension  
 click setting x : 4.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 80.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance cm<sup>3</sup>/1000S. : 6.0

##### CONTROL LEVER

control lever position degree : 114.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 8.50  
 Rated speed rpm : 1280  
 Tolerance 1/min : + 5

rack travel mm : 5.60  
 Rated speed rpm : 1335  
 Tolerance 1/min : + 5

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1465

rack travel mm : 5.60  
 Rated speed rpm : 1335

##### LOW IDLE

control lever position degree : 88.0  
 tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 425  
 rack travel mm : 4.60

##### Testing:

Rated speed rpm : 425  
 rack travel mm : 5.10  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1200  
 rack travel mm : 9.55  
 Tolerance mm : + 0.05

Rated speed rpm : 800

---

### BREAKAWAY

Rack travel in mm : 8.50  
Rated speed rpm : 1280  
Tolerance 1/min : + - 5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 15.0

---

### LOW IDLE

Rated speed rpm : 425  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.02.96  
Test oil : ISO 4113

Combination No. : 0 400 075 952

Injection pump  
Pump designation : PES5M55C320RS170  
EP type number : 0 410 055 977

Governor  
Governor design. : RSF350/2300M56-5  
Governor no. : 0 420 021 112

Cust. part No. :

## Customer-spec. information

Customer : MB-PKW  
Motor : OM602-ECE  
Power KW : 66.0

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holder  
assembly : 1 688 901 111

Opening pressure  
bar : 148.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 21.00  
Tolerance mm : + 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

## Start of delivery blocking

\*NW after s.o.d. : 19.50  
Tolerance : + 0.20  
Check  
tolerance \*NW : + 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.35  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 1.5

Spread  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000s. : 3.0

Rated speed rpm : 350

Rack travel in mm : 6.60  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 6.8  
cm<sup>3</sup>/1000 strokes : + - 0.5  
Spread  
cm<sup>3</sup>/1000 strokes : 1.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### IDLE STAGE

Rack travel in mm : 6.50  
Tolerance mm : + - 0.10

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.5  
cm<sup>3</sup>/1000 strokes : + - 0.5  
Check tolerance  
cm<sup>3</sup>/1000s. : + - 1.5  
Spread  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 3.0

##### RATED SPEED

control lever  
position degree : 50.0

Rated speed rpm : 2500  
rack travel mm : 8.70  
Tolerance mm : + - 0.20

Rated speed rpm : 2950  
rack travel mm : 0.50  
Tolerance mm : + - 0.50

##### SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000

CRT mm max. : 1.25

##### LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : + - 2.0

Setting point w/out bumper spring  
Rated speed rpm : 350  
rack travel mm : 6.60

##### SET IDLE AUXILIARY SPRING

Rated speed rpm : 400  
rack travel mm : 5.50  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 720  
Tolerance 1/min : + - 50

##### Load pick-up

Rated speed rpm : 220  
rack travel mm : > 9.50

Rated speed rpm : 1000

CRT mm max. : 1.25  
rack travel mm : 6.60  
Rated speed rpm : 350

##### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.35  
Tolerance mm : + - 0.05

Rated speed rpm : 1800  
rack travel mm : 11.80  
Tolerance mm : + - 0.10

Rated speed rpm : 2200  
rack travel mm : 11.50  
Tolerance mm : + - 0.10

##### ADJUSTMENT TEST ADA/ALDA

##### SETTING

Rated speed rpm : 1000

Ref. pressure  
ALDA / ADA hPa : 950  
rack travel mm : -0.10  
Tolerance mm : + - 0.10

#### MEASUREMENT

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.60  
Tolerance mm : + - 0.10

Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -2.00  
Tolerance mm : + - 0.20

#### FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 1800  
Del. quantity  
cm3/1000 strokes : 33.8  
cm3/1000 strokes : + - 0.8  
Check tolerance  
cm3/1000S. : + - 1.8  
Spread  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2200  
Spread  
Del. quantity  
cm3/1000 strokes : 35.0  
cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 2.0  
Spread  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

#### HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2500  
rack travel mm : 8.70  
Tolerance mm : + - 0.20  
Del. quantity  
cm3/1000 strokes : 24.0

cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 3.0  
Spread  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : > 20.10  
Del. quantity  
cm3/1000 strokes : 52.0  
Spread  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 6.0

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm3/1000 strokes : 7.8  
Check tolerance  
cm3/1000S. : + - 2.3  
Spread  
Check tolerance  
cm3/1000S. : 1.5

control lever  
position degree : > 49.00

control lever  
position degree : < 46.50

#### SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever  
position degree : 14.0  
tolerance degree : + - 2.0

Rated speed rpm : 400

Rack travel in mm : 7.50  
Tolerance mm : + - 0.80

Def. quantity  
cm<sup>3</sup>/1000 strokes : 10.0  
cm<sup>3</sup>/1000 strokes : +- 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Vacuum hPa : 400.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 350  
Vacuum hPa : -450.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 02.10.96  
Test oil : ISO 4113

Combination No. : 0 402 076 801

Injection pump  
Pump designation : PES6P120A1320/5RS337  
: 2Y  
EP type number : 0 412 026 793

Governor  
Governor design. : RSV350...1050P1A641  
Governor no. : 0 421 833 553

Cust. part No. : 1382923

### Customer-spec. information

Customer : SCANIA  
Motor : DSI1172A,-C1157A

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 16.75

Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 263.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spred cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rack travel in mm : 6.00  
 Tolerance mm :  $\pm$  0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 20.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spred cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm :  $\pm$  0.20  
 governor spring pre-tension  
 click setting x : 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 263.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spred cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance cm<sup>3</sup>/1000S. : 12.0

CONTROL LEVER

control lever position degree : 33.0  
 tolerance degree :  $\pm$  4.0  
 control lever position degree : 83.0  
 tolerance degree :  $\pm$  4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
 rack travel mm : 15.70  
 Rated speed rpm : 788  
 Tolerance 1/min :  $\pm$  4  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55  
 Rated speed rpm : 850  
 Rated speed rpm : 751  
 rack travel mm : 15.70  
 Rated speed rpm : 789  
 Tolerance 1/min :  $\pm$  4  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55  
 Rated speed rpm : 850  
 Rated speed rpm : 752  
 rack travel mm : 15.70  
 Rated speed rpm : 790  
 Tolerance 1/min :  $\pm$  4  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55  
 Rated speed rpm : 850  
 Rated speed rpm : 753  
 rack travel mm : 15.70  
 Rated speed rpm : 791  
 Tolerance 1/min :  $\pm$  4  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55

Rated speed rpm	:	850
Rated speed rpm	:	754
rack travel mm	:	15.70
Rated speed rpm	:	792
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	850
Rated speed rpm	:	755
rack travel mm	:	15.70
Rated speed rpm	:	793
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	850

#### TORQUE CONTROL

Rated speed rpm	:	700
rack travel mm	:	16.75
Tolerance mm	:	+ - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm	:	500
Pressure hPa	:	1500
rack travel mm	:	16.75
Tolerance mm	:	+ - 0.05

##### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	500
rack travel mm	:	13.50
Tolerance mm	:	+ - 0.20

Rated speed rpm	:	500
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Pressure hPa	:	295
rack travel mm	:	14.30
Tolerance mm	:	+ - 0.20

Pressure hPa	:	640
rack travel mm	:	16.00
Tolerance mm	:	+ - 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm <sup>3</sup> /1000 strokes	:	188.0
cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 4.0

#### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	13.50
Tolerance mm	:	+ - 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	:	140.0
cm <sup>3</sup> /1000 strokes	:	+ - 20.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 24.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.10.96  
Test oil : ISO 4113

Combination No. : 0 402 076 802

Injection pump  
Pump designation : PES6P120A1320/5RS337  
: 3  
EP type number : 0 412 026 794

Governor  
Governor design. : RSV350...1050P8A643  
Governor no. : 0 421 833 555

Cust. part No. : 1385930

### Customer-spec. information

Customer : SCANIA  
Motor : DSI1171A,-C1156A

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 15.35  
 Tolerance mm :  $\pm$  0.05  


---

 Del. quantity cm<sup>3</sup>/1000 strokes : 226.0  


---

 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  


---

 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  7.0  


---

 Spread cm<sup>3</sup>/1000 strokes : 8.0  


---

 Check tolerance cm<sup>3</sup>/1000S. : 12.0  


---

 Rated speed rpm : 350

Rack travel in mm : 5.10  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 18.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm :  $\pm$  0.20  
  
 governor spring pre-tension  
 click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 226.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  7.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

CONTROL LEVER

control lever position degree : 54.0  
 tolerance degree :  $\pm$  4.0  
 control lever position degree : 104.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 14.30  
 Rated speed rpm : 1095  
 Tolerance 1/min :  $\pm$  5  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1195  
 Tolerance 1/min :  $\pm$  15  
  
 rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55  
 Rated speed rpm : 1300  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1215

LOW IDLE

control lever position degree : 73.0  
 tolerance degree :  $\pm$  4.0  
 control lever position degree : 23.0  
 tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 4.60

Testing:

Rated speed rpm : 350  
 rack travel mm : 5.10  
 Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 555  
Tolerance 1/min : + 30

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 15.35  
Tolerance mm : + 0.05

Rated speed rpm : 1050  
rack travel mm : 15.35  
Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 15.35  
Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 12.10  
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 510  
rack travel mm : 13.10  
Tolerance mm : + 0.20

Pressure hPa : 780  
rack travel mm : 14.50  
Tolerance mm : + 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 1050  
Del. quantity cm3/1000 strokes : 209.0  
cm3/1000 strokes : + 4.0  
Check tolerance cm3/1000S. : + 6.0

Aneroid pressure hPa : -

Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 150.0  
cm3/1000 strokes : + 1.0  
Check tolerance cm3/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 14.30  
Rated speed rpm : 1095  
Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.10  
Tolerance mm : + 0.20  
Del. quantity cm3/1000 strokes : 165.0  
cm3/1000 strokes : + 20.0  
Check tolerance cm3/1000S. : + 24.0

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity cm3/1000 strokes : 18.0  
cm3/1000 strokes : + 3.0  
Check tolerance cm3/1000S. : + 6.0  
Spread cm3/1000 strokes : 4.0  
Check tolerance cm3/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.10.96  
Test oil : ISO 4113

Combination No. : 0 402 648 974

Injection pump  
Pump designation : PE8P120A320LS7875  
EP type number : 0 412 628 881

Governor  
Governor design. : RQ250/1150PA1122  
Governor no. : 0 421 801 704

Cust. part No. :

Customer-spec. information  
Customer : DAEWOO  
Motor : V2-8TC

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.20  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 16.00  
Tolerance mm : + 1.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.60  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 208.0

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

Rated speed rpm : 300

Rack travel in mm : 5.80  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0

cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

guide sleeve  
travel mm : 11.50  
Tolerance mm : + - 0.50

#### GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : + - 0.80

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure

hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 208.0

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve  
travel mm : 2.39

Tolerance mm : + - 0.10

Rated speed rpm : 1207

guide sleeve  
travel mm : 6.36

Tolerance mm : + - 0.10

Rated speed rpm : 650

guide sleeve  
travel mm : 6.00

Tolerance mm : + - 0.10

Rated speed rpm : 382

guide sleeve  
travel mm : 5.26

Tolerance mm : + - 0.10

Rated speed rpm : 450

guide sleeve  
travel mm : 6.00

Tolerance mm : + - 0.10

Rated speed rpm : 1370

##### CONTROL LEVER

control lever  
position degree : 34.0  
tolerance degree : + - 4.0

control lever  
position degree : 95.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 12.60  
Rated speed rpm : 1202  
Tolerance 1/min : + - 8

rack travel mm : 4.00  
Rated speed rpm : 1280  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1350

##### LOW IDLE

control lever  
position degree : 75.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 14.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 375  
Tolerance 1/min :  $\pm$  20

Rated speed rpm : 200  
CRT mm min. :  $>$  9.20

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 13.60  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 650  
rack travel mm : 13.60  
Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.60  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.00  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 650  
rack travel mm : 12.30  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 250

rack travel mm : 10.00  
Tolerance mm :  $\pm$  0.05

#### START CUT-OUT

Rated speed rpm :  $>$  205  
Rated speed rpm :  $<$  240

Check  
speed 1/min :  $>$  185

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 226.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 137.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### BREAKAWAY

Rack travel in mm : 12.60  
Rated speed rpm : 1202  
Tolerance 1/min :  $\pm$  8

#### STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 203.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance : + 6.0  
cm<sup>3</sup>/1000s.  
Spread : 5.0  
cm<sup>3</sup>/1000 strokes  
Check tolerance : 8.0  
cm<sup>3</sup>/1000s.

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 14.10.96  
Test oil : ISO 4113

Combination No. : 0 402 676 825

Injection pump  
Pump designation : PE6P120A320RS7430  
EP type number : 0 412 626 960

Governor  
Governer design. : RSV300...850P1A614  
Governer no. : 0 421 833 502

Cust. part No. : 11031231 P04 v.08/96

**Customer-spec. information**

Customer : VCE  
Motor : TD 103 KAE  
Power KW : 190.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

**Start of delivery mark**

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 500

Rack travel in mm : 12.20  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 306.0

cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0  
 Rated speed rpm : 325  
 Rack travel in mm : 4.20  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 34.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 6.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring pre-tension  
 click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 500  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 306.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0

##### CONTROL LEVER

control lever position degree : 83.0  
 tolerance degree : + 4.0  
 control lever position degree : 106.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.60  
 Rated speed rpm : 875  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 950  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1100

##### LOW IDLE

control lever position degree : 56.0  
 tolerance degree : + 4.0

control lever position degree : 33.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 3.80

##### Testing:

Rated speed rpm : 325  
 rack travel mm : 4.20  
 Tolerance mm : + 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 425  
 Tolerance 1/min : + 30

##### TORQUE CONTROL

Rated speed rpm : 500  
 rack travel mm : 12.20  
 Tolerance mm : + 0.05

Rated speed rpm : 700  
rack travel mm : 11.60  
Tolerance mm : + - 0.10

Rated speed rpm : 570  
rack travel mm : 11.90  
Tolerance mm : + - 0.10

---

#### ANEROID/ALITITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.20  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.70  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 680  
rack travel mm : 3.40  
Tolerance mm : + - 0.20

Pressure hPa : 180  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 258.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 198.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.60  
Rated speed rpm : 875  
Tolerance 1/min : + - 5

---

#### LOW IDLE

Rated speed rpm : 325  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 34.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.96  
Test oil : ISO 4113

Combination No. : 0 402 698 033F1

Injection pump  
Pump designation : PE8H120/320LS3-2  
EP type number :

Governor  
Governor design. : RE36 (FD 57102 - FD  
: 57108)  
Governor no. :

Cust. part No. : 0250745602

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM 442 LA

## TEST BENCH REQUIREMENTS

Inlet line : 3.2 ELAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 7.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 8

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.  
CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(ALL P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min-1: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min-1: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 750  
Uact V : 2.800  
Prestroke solenoid  
Stroke mm : 7.40  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 347.0  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
Uact V : 2.900  
Prestroke solenoid  
Stroke mm : 8.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 334.0

Rated speed rpm : 550  
Uact V : 2.700  
Prestroke solenoid  
Stroke mm : 9.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 354.0

TEST POINT L1

Rated speed rpm : 300  
Uact V : 1.500  
Tolerance Volt : +/- 0.060  
Check tolerance  
Volt : +/- 0.060  
Prestroke solenoid  
Stroke mm : 8.00

Del. quantity  
cm3/1000 strokes : 37.0  
cm3/1000 strokes : + 3.0  
Spreed  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000s. : 9.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Uact V : 1.900  
Prestroke solenoid  
Stroke mm : 10.00  
Del. quantity  
cm3/1000 strokes : 114.0  
cm3/1000 strokes : + 10.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.96  
Test oil : ISO 4113

Combination No. : 0 402 698 033F2

Injection pump  
Pump designation : PE8H120/320LS3-2  
EP type number :

Governor  
Governor design. : RE36 (FD 57109 - FD  
: 66213)  
Governor no. :

Cust. part No. : 0250745602

### Customer-spec. information

Customer : ME-NFZ  
Motor : OM 442 LA

### TEST BENCH REQUIREMENTS

Inlet line : 3.2 ELAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 7.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 8

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.  
CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(ALL P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min-1: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check  
tolerance V : +/- 1.20

Engine speed min-1: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 750  
Uact V : 2.800  
Prestroke solenoid  
Stroke mm : 7.40  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 350.0  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
Uact V : 2.900  
Prestroke solenoid  
Stroke mm : 8.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 336.0

Rated speed rpm : 550  
Uact V : 2.700  
Prestroke solenoid  
Stroke mm : 9.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 357.0

TEST POINT L1

Rated speed rpm : 300  
Uact V : 1.500  
Tolerance Volt : +/- 0.060  
Check tolerance  
Volt : +/- 0.060  
Prestroke solenoid  
Stroke mm : 8.00

Del. quantity  
cm3/1000 strokes : 40.0  
cm3/1000 strokes : + - 3.0  
Spred  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 9.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Uact V : 1.900  
Prestroke solenoid  
Stroke mm : 10.00  
Del. quantity  
cm3/1000 strokes : 117.0  
cm3/1000 strokes : + - 10.0

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.96  
Test oil : ISO 4113

Combination No. : 0 402 698 033F3

Injection pump  
Pump designation : PE8H120/320LS3-2  
EP type number :

Governor  
Governor design. : RE36 (FD 66214 - FD  
: 66231)  
Governor no. :

Cust. part No. : 0250745602

**Customer-spec. information**

Customer : MB-NFZ  
Motor : OM 442 LA

**TEST BENCH REQUIREMENTS**

Inlet Line : 3.2 ELAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

**REMARKS**

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 7.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 8

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.  
CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(ALL P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min-1: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min-1: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 750  
Uact V : 2.800  
Prestroke solenoid  
Stroke mm : 7.40  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 344.0  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
Uact V : 2.900  
Prestroke solenoid  
Stroke mm : 8.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 331.0  
Rated speed rpm : 550  
Uact V : 2.700  
Prestroke solenoid  
Stroke mm : 9.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 351.0

TEST POINT L1

Rated speed rpm : 300  
Uact V : 1.500  
Tolerance Volt : +/- 0.060  
Check tolerance  
Volt : +/- 0.060  
Prestroke solenoid  
Stroke mm : 8.00

Del. quantity  
cm3/1000 strokes : 34.0  
cm3/1000 strokes :  $\pm$  3.0  
Spreed  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000s. : 9.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Uact V : 1.900  
Prestroke solenoid  
Stroke mm : 10.00  
Del. quantity  
cm3/1000 strokes : 111.0  
cm3/1000 strokes :  $\pm$  10.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.10.96  
Test oil : ISO 4113

Combination No. : 0 402 796 037

Injection pump  
Pump designation : PES6H110/320RS13  
EP type number : 0 412 716 003

Governor  
Governor design. : RE36  
Governor no. : 0 421 890 363

Cust. part No. : 51.11103-7482

### Customer-spec. information

Customer : MAN  
Motor : D0826 LF13/LFL09  
Power KW : 191.0

### TEST BENCH REQUIREMENTS

Inlet line : 3(EHAB)

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 073

Inlet press. bar : 3.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 8.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.  
CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(ALL P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min-1: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min-1: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 850  
Uact V : 2.490  
Prestroke solenoid  
Stroke mm : 11.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 224.0  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : +/- 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 800  
Uact V : 1.580  
Prestroke solenoid  
Stroke mm : 7.70  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 95.0  
Check tolerance  
cm<sup>3</sup>/1000s. : +/- 8.0  
Spread  
Check tolerance  
cm<sup>3</sup>/1000s. : 7.0

Rated speed rpm : 1150  
Uact V : 2.440  
Prestroke solenoid  
Stroke mm : 9.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 206.0

cm3/1000 strokes : + 6.0  
Check tolerance  
cm3/1000S. : + 10.0

Rated speed rpm : 600  
Uact V : 2.220  
Prestroke solenoid  
Stroke mm : 12.10  
Del. quantity  
cm3/1000 strokes : 207.0  
cm3/1000 strokes : + 6.0  
Check tolerance  
cm3/1000S. : + 10.0

Rated speed rpm : 500  
Uact V : 1.750  
Prestroke solenoid  
Stroke mm : 9.80  
Del. quantity  
cm3/1000 strokes : 135.0  
cm3/1000 strokes : + 5.0  
Check tolerance  
cm3/1000S. : + 9.0

#### TEST POINT L1

Rated speed rpm : 300  
Uact V : 1.310  
Tolerance Volt : + 0.060  
Check tolerance  
Volt : + 0.080  
Prestroke solenoid  
Stroke mm : 11.10  
Del. quantity  
cm3/1000 strokes : 26.0  
cm3/1000 strokes : + 3.0  
Spread  
cm3/1000 strokes : 7.0  
Check tolerance  
cm3/1000S. : 11.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Uact V : 2.050  
Prestroke solenoid  
Stroke mm : 5.50  
Del. quantity  
cm3/1000 strokes : 130.0  
cm3/1000 strokes : + 8.0  
Check tolerance  
cm3/1000S. : + 12.0

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.10.96  
Test oil : ISO 4113

Combination No. : 0 402 796 039

Injection pump  
Pump designation : PES6H110/320RS13-1  
EP type number : 0 412 716 004

Governor  
Governor design. : RE36  
Governor no. : 0 421 890 363

Cust. part No. : 51.11103-7529

**Customer-spec. information**

Customer : MAN  
Motor : D0826 LF13/LFL09  
Power KW : 191.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3-unten

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x Length mm : 600

**REMARKS**

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 8.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

**Start of delivery blocking**

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
 $n=600 \text{ min}^{-1}$ ,  $U_{act} = 2.5 \text{ V}$

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min $^{-1}$ : 0

Setting point  
(P, R and H pump)

$U_{act} \text{ V}$  : 3.100  
 $\text{CRT mm}$  : 13.00  
Tolerance mm :  $\pm 0.05$   
Check  
tolerance mm :  $\pm 0.10$

Check value  
(P, R and H pump)

$U_{act} \text{ V}$  : 1.700  
 $\text{CRT mm}$  : 6.15  
Tolerance mm :  $\pm 0.25$   
Check  
tolerance mm :  $\pm 0.30$

Setting point  
(M pump)

$U_{act} \text{ V}$  : 3.100  
 $\text{CRT mm}$  : 12.50  
Tolerance mm :  $\pm 0.05$   
Check  
tolerance mm :  $\pm 0.10$

Check value  
(M pump)

$U_{act} \text{ V}$  : 1.700  
 $\text{CRT mm}$  : 5.50  
Tolerance mm :  $\pm 0.25$   
Check  
tolerance mm :  $\pm 0.30$

Stop position

$U_{act} \text{ V}$  : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.

$\text{CRT mm}$  : 0.75  
Tolerance mm :  $\pm 0.25$   
Check  
tolerance mm :  $\pm 0.35$

ENGINE-SPEED SENSOR  
(All P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min $^{-1}$ : 60  
Amplitude V : 1.4  
Tolerance V :  $\pm 0.6$   
Check  
tolerance V :  $\pm 1.20$

Engine speed min $^{-1}$ : 600  
Difference  
Amplitude to  
Amplitude V : max. 1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 850  
 $U_{act} \text{ V}$  : 2.490  
Prestroke solenoid  
Stroke mm : 11.10  
Del. quantity  
 $\text{cm}^3/1000 \text{ strokes}$  : 224.0  
 $\text{cm}^3/1000 \text{ strokes}$  :  $\pm 1.0$   
Check tolerance  
 $\text{cm}^3/1000 \text{ s.}$  :  $\pm 4.0$   
Spread  
 $\text{cm}^3/1000 \text{ strokes}$  : 5.0  
Check tolerance  
 $\text{cm}^3/1000 \text{ s.}$  : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 800  
 $U_{act} \text{ V}$  : 1.580  
Prestroke solenoid  
Stroke mm : 7.70  
Del. quantity  
 $\text{cm}^3/1000 \text{ strokes}$  : 95.0  
Check tolerance  
 $\text{cm}^3/1000 \text{ s.}$  :  $\pm 8.0$   
Spread  
Check tolerance  
 $\text{cm}^3/1000 \text{ s.}$  : 7.0

Rated speed rpm : 1150  
 $U_{act} \text{ V}$  : 2.440  
Prestroke solenoid  
Stroke mm : 9.30  
Del. quantity  
 $\text{cm}^3/1000 \text{ strokes}$  : 206.0

cm3/1000 strokes : + 6.0  
Check tolerance  
cm3/1000S. : + 10.0

Rated speed rpm : 600  
Uact V : 2.220  
Prestroke solenoid  
Stroke mm : 12.10  
Del. quantity  
cm3/1000 strokes : 207.0  
cm3/1000 strokes : + 6.0  
Check tolerance  
cm3/1000S. : + 10.0

Rated speed rpm : 500  
Uact V : 1.750  
Prestroke solenoid  
Stroke mm : 9.80  
Del. quantity  
cm3/1000 strokes : 135.0  
cm3/1000 strokes : + 5.0  
Check tolerance  
cm3/1000S. : + 9.0

#### TEST POINT L1

Rated speed rpm : 300  
Uact V : 1.310  
Tolerance Volt : + 0.060  
Check tolerance  
Volt : + 0.080  
Prestroke solenoid  
Stroke mm : 11.10  
Del. quantity  
cm3/1000 strokes : 26.0  
cm3/1000 strokes : + 3.0  
Spread  
cm3/1000 strokes : 7.0  
Check tolerance  
cm3/1000S. : 11.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Uact V : 2.050  
Prestroke solenoid  
Stroke mm : 5.50  
Del. quantity  
cm3/1000 strokes : 130.0  
cm3/1000 strokes : + 8.0  
Check tolerance  
cm3/1000S. : + 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.96  
Test oil : ISO 4113

Combination No. : 0 402 846 073

Injection pump  
Pump designation : PE6P110A320RS8042  
EP type number : 0 412 816 013

Governor  
Governor design. : RQV300...1200PA1043  
: -1  
Governor no. : 0 421 814 150

Cust. part No. : 11032710  
: -P01 v.08.96

### Customer-spec. information

Customer : VCE  
Motor : TD73KFE  
Power KW : 171.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.10  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 182.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance  
cm<sup>3</sup>/1000s. : 11.0

Rated speed rpm : 300

Rack travel in mm : 4.50  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 5.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.17  
Tolerance mm : + 0.20

Rated speed rpm : 1256  
guide sleeve  
travel mm : 8.23  
Tolerance mm : + 0.15

Rated speed rpm : 857  
guide sleeve  
travel mm : 5.21  
Tolerance mm : + 0.25

Rated speed rpm : 530  
guide sleeve  
travel mm : 3.11  
Tolerance mm : + 0.25

Rated speed rpm : 1550  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1393

Rack travel in mm : 10.00  
Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 182.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0  
Spred  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 11.0

##### CONTROL LEVER

control lever  
position degree : 47.0  
tolerance degree : + 4.0

control lever  
position degree : 113.0  
tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.10  
Rated speed rpm : 1245  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1335  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1450

##### LOW IDLE

control lever  
position degree : 82.0  
tolerance degree : + 4.0

control lever  
position degree : 16.0  
tolerance degree : + 4.0

### Testing:

Rated speed rpm	:	300
rack travel mm	:	4.50
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	200
CRT mm min.	:	> 8.53
Rated speed rpm	:	340

### TORQUE CONTROL

Rated speed rpm	:	700
rack travel mm	:	11.10
Tolerance mm	:	+ - 0.05

### ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm	:	500
Pressure hPa	:	1500
rack travel mm	:	11.10
Tolerance mm	:	+ - 0.05

### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	500
rack travel mm	:	7.80
Tolerance mm	:	+ - 0.10

Rated speed rpm : 500

Pressure hPa	:	730
rack travel mm	:	2.90
Tolerance mm	:	+ - 0.20

Pressure hPa	:	230
rack travel mm	:	0.25
Tolerance mm	:	+ - 0.05

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	-
Rated speed rpm	:	700
Del. quantity cm3/1000 strokes	:	114.0
cm3/1000 strokes	:	+ - 1.0

Check tolerance  
cm3/1000S. : + - 4.0

### BREAKAWAY

Rack travel in mm	:	10.10
Rated speed rpm	:	1245
Tolerance 1/min	:	+ - 5

### LOW IDLE

Rated speed rpm	:	300
Del. quantity cm3/1000 strokes	:	24.0
cm3/1000 strokes	:	+ - 2.0
Check tolerance cm3/1000S.	:	+ - 5.0
Spread		
cm3/1000 strokes	:	5.0
Check tolerance cm3/1000S.	:	8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 14.10.96  
Test oil : ISO 4113

Combination No. : 0 402 846 075

Injection pump  
Pump designation : PE6P110A320RS8042  
EP type number : 0 412 816 013

Governor  
Governor design. : RQV300...1050PA1183  
: -1  
Governor no. : 0 421 814 159

Cust. part No. : 11032711  
: -P01 V.08/96

## Customer-spec. information

Customer : VCE  
Motor : TD 73 KDE  
Power KW : 153.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.85  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.90  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 178.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000s. : + 3.0

Spred cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance cm<sup>3</sup>/1000s. : 11.0

Rated speed rpm : 300

Rack travel in mm : 4.50

Tolerance mm : + 0.30

Del. quantity cm<sup>3</sup>/1000 strokes : 24.0

cm<sup>3</sup>/1000 strokes : + 2.5

Check tolerance cm<sup>3</sup>/1000s. : + 5.0

Spred cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000s. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve travel mm : 1.17

Tolerance mm : + 0.20

Rated speed rpm : 1107

guide sleeve travel mm : 7.86

Tolerance mm : + 0.15

Rated speed rpm : 804

guide sleeve travel mm : 5.19

Tolerance mm : + 0.25

Rated speed rpm : 530

guide sleeve travel mm : 3.11

Tolerance mm : + 0.25

Rated speed rpm : 1400

guide sleeve travel mm : 11.50

Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1259

Rack travel in mm : 9.80

Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure hPa : 1500

Del. quantity cm<sup>3</sup>/1000 strokes : 178.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000s. : + 3.0

Spred cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance cm<sup>3</sup>/1000s. : 11.0

##### CONTROL LEVER

control lever position degree : 45.0

tolerance degree : + 4.0

control lever position degree : 112.0

tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 9.90

Rated speed rpm : 1095

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1175

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1300

##### LOW IDLE

control lever position degree : 82.0

tolerance degree : + 4.0

control lever position degree : 16.0

tolerance degree : + 4.0

### Testing:

Rated speed rpm : 300  
rack travel mm : 4.50  
Tolerance mm : + 0.30

Rated speed rpm : 200

CRT mm min. : > 7.50

Rated speed rpm : 340

### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 10.90  
Tolerance mm : + 0.05

### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 10.90  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.00  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 710  
rack travel mm : 2.60  
Tolerance mm : + 0.20

Pressure hPa : 270  
rack travel mm : 0.25  
Tolerance mm : + 0.05

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm3/1000 strokes : 117.0  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 4.0

### BREAKAWAY

Rack travel in mm : 9.90  
Rated speed rpm : 1095  
Tolerance 1/min : + 5

### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 24.0  
cm3/1000 strokes : + 2.5  
Check tolerance  
cm3/1000S. : + 5.0  
Spread  
cm3/1000 strokes : 5.0  
Check tolerance  
cm3/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.10.96  
Test oil : ISO 4113

Combination No. : 0 402 846 081

Injection pump  
Pump designation : PE6P120A320RS8044  
EP type number : 0 412 826 036

Governor  
Governor design. : RQV300...950PA1321  
Governor no. : 0 421 814 186

Cust. part No. : 11127026  
: -P02 V.08/96

## Customer-spec. information

Customer : VCE  
Motor : TD122KLE  
Power KW : 200.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.90  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 279.0  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

Rated speed rpm : 300

Rack travel in mm : 4.20  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0

cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve  
travel mm : 1.17

Tolerance mm : + 0.20

Rated speed rpm : 1097

guide sleeve  
travel mm : 8.26

Tolerance mm : + 0.15

Rated speed rpm : 854

guide sleeve  
travel mm : 6.04

Tolerance mm : + 0.25

Rated speed rpm : 580

guide sleeve  
travel mm : 3.53

Tolerance mm : + 0.25

Rated speed rpm : 1360

guide sleeve  
travel mm : 11.50

Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1120

Rack travel in mm : 9.80  
Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 279.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

##### CONTROL LEVER

control lever  
position degree : 50.0

tolerance degree : + 4.0

control lever  
position degree : 106.0

tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 9.90

Rated speed rpm : 1015

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1105

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1210

##### LOW IDLE

control lever  
position degree : 72.0

tolerance degree : + 4.0

control lever  
position degree : 16.0

tolerance degree : + 4.0

### Testing:

Rated speed rpm : 300  
rack travel mm : 4.20  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200

CRT mm min. : > 8.00

Rated speed rpm : 375

### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 10.90  
Tolerance mm :  $\pm$  0.05

### ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 550  
Pressure hPa : 1500  
rack travel mm : 10.90  
Tolerance mm :  $\pm$  0.10

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 550  
rack travel mm : 8.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 550

Pressure hPa : 640  
rack travel mm : 2.00  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 240  
rack travel mm : 0.25  
Tolerance mm :  $\pm$  0.05

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 208.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

### BREAKAWAY

Rack travel in mm : 9.90  
Rated speed rpm : 1015  
Tolerance 1/min :  $\pm$  5

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 14.10.96  
Test oil : ISO 4113

Combination No. : 0 402 946 024

Injection pump  
Pump designation : PES6P120A720RS8045  
EP type number : 0 412 926 028

Governor  
Governor design. : RQ750PA1299  
Governor no. : 0 421 801 810

Cust. part No. : 1388641

---

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1158A

---

### TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 90  
Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery blocking

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

---

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.75  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 363.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rack travel in mm : 3.30  
Tolerance mm :  $\pm$  0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0

cm<sup>3</sup>/1000 strokes :  $\pm$  4.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 759  
guide sleeve  
travel mm : 5.07  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 795  
guide sleeve  
travel mm : 10.00  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 850  
guide sleeve  
travel mm : 11.50  
Tolerance mm :  $\pm$  0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 363.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever  
position degree : 28.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 89.0  
tolerance degree :  $\pm$  4.0

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
rack travel mm : 12.70

Rated speed rpm : 778  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 850

Rated speed rpm : 751  
rack travel mm : 12.70

Rated speed rpm : 779  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 850

Rated speed rpm : 752  
rack travel mm : 12.70

Rated speed rpm : 780  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 850

Rated speed rpm : 753  
rack travel mm : 12.70

Rated speed rpm : 781  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 754  
rack travel mm : 12.70

Rated speed rpm : 782  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 755  
rack travel mm : 12.70

Rated speed rpm : 783  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.75  
Tolerance mm : + 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.75  
Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.50  
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : 9.80  
Tolerance mm : + 0.25

Pressure hPa : 820  
rack travel mm : 12.40  
Tolerance mm : + 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 218.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 6.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 8.50  
Tolerance mm : + 0.20  
Del. quantity cm<sup>3</sup>/1000 strokes : 155.0  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance cm<sup>3</sup>/1000S. : + 24.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.10.96  
Test oil : ISO 4113

Combination No. : 9 400 083 430

Injection pump  
Pump designation : PES6A80D320/3RS1261  
EP type number : 9 400 083 057

Governor  
Governor design. : RSV350...1200A2C627R  
Governor no. : 9 420 083 288

Cust. part No. :

### Customer-spec. information

Customer : MWM  
Motor : D225-6

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.50

### BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 9.45  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 51.0

cm3/1000 strokes : + 0.5

Check tolerance  
cm3/1000s. : + 2.0

Spread

cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance cm<sup>3</sup>/1000S. : 4.0

Rated speed rpm : 350

Rack travel in mm : 6.00  
Tolerance mm : + 0.10

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

governor spring pre-tension  
click setting x : 4.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 51.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance cm<sup>3</sup>/1000S. : + 2.0

Spred cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance cm<sup>3</sup>/1000S. : 4.0

##### CONTROL LEVER

control lever position degree : 50.0  
tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 8.40  
Rated speed rpm : 1245  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1300  
Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1400

##### LOW IDLE

control lever position degree : 20.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 5.50

##### Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 520  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 9.45  
Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 9.50  
Tolerance mm : + 0.10

Rated speed rpm : 400  
rack travel mm : 10.90  
Tolerance mm : + 0.30

##### BREAKAWAY

Rack travel in mm : 8.40  
Rated speed rpm : 1245  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00

---

LOW IDLE

Rated speed rpm : 350

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.10.96  
Test oil : ISO 4113

Combination No. : 9 400 085 293

Injection pump  
Pump designation : PES6A80D410RS2755  
EP type number : 9 400 093 005

Governor  
Governor design. : RQV300...1400AB1234L  
Governor no. : 9 420 080 241

Cust. part No. :

Customer-spec. information  
Customer : DEUTZ-ARGENTINA  
Motor : F 6 L 913

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 1.95  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 12.05  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 69.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0

Spread  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

Rated speed rpm : 300

Rack travel in mm : 6.00  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm3/1000 strokes : 10.0  
 cm3/1000 strokes : + 1.5  
 Check tolerance  
 cm3/1000S. : + 3.5  
 Spreed  
 cm3/1000 strokes : 4.0  
 Check tolerance  
 cm3/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1460  
 guide sleeve  
 travel mm : 8.50  
 Tolerance mm : + 0.10

Rated speed rpm : 775  
 guide sleeve  
 travel mm : 4.35  
 Tolerance mm : + 0.25

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.95  
 Tolerance mm : + 0.25

Rated speed rpm : 550  
 guide sleeve  
 travel mm : 2.85  
 Tolerance mm : + 0.15

Rated speed rpm : 950  
 guide sleeve  
 travel mm : 5.35  
 Tolerance mm : + 0.15

GUIDE SLEEVE POSITION

Rated speed rpm : 1420  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : -

Del. quantity  
 cm3/1000 strokes : 69.5  
 cm3/1000 strokes : + 0.5  
 Check tolerance  
 cm3/1000S. : + 2.0  
 Spreed  
 cm3/1000 strokes : 2.5  
 Check tolerance  
 cm3/1000S. : 4.0

CONTROL LEVER

control lever  
 position degree : 59.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.00  
 Rated speed rpm : 1445  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1585  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1700

LOW IDLE

control lever  
 position degree : 10.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 6.00  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 7.50

Rated speed rpm : 450

TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 12.05  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 12.95  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1200  
rack travel mm : 12.35  
Tolerance mm :  $\pm$  0.15

---

#### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 64.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 68.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

#### BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1445  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 14.10.96  
Test oil : ISO 4113

Combination No. : 9 400 085 351

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1300AB1066  
: -13L  
Governor no. : 9 420 080 332

Cust. part No. : 024 074 36 02

## Customer-spec. information

Customer : MBB  
Motor : OM 366 LA  
Power KW : 150.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 104.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm :  $\pm$  0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 104.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 60.0  
 tolerance degree :  $\pm$  4.0  
 control lever  
 position degree : 109.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 10.60  
 Rated speed rpm : 1360  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1505  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 19.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 8.00  
 Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.45  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 11.45  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.45  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 240  
rack travel mm : 0.60  
Tolerance mm : + - 0.10

Pressure hPa : 520  
rack travel mm : 1.65  
Tolerance mm : + - 0.05

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm3/1000 strokes : 94.5  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.0  
Spread  
cm3/1000 strokes : 5.0

Check tolerance  
cm3/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 48.5  
cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 3.0  
Spread  
cm3/1000 strokes : 3.5  
Check tolerance  
cm3/1000S. : 8.0

##### BREAKAWAY

Rack travel in mm : 10.60  
Rated speed rpm : 1360  
Tolerance 1/min : + - 5

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.90  
Tolerance mm : + - 0.10  
Del. quantity  
cm3/1000 strokes : 76.5  
cm3/1000 strokes : + - 7.5  
Check tolerance  
cm3/1000S. : + - 10.0

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 11.0  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.5  
Spread  
cm3/1000 strokes : 5.5  
Check tolerance  
cm3/1000S. : 9.0

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 14.10.96  
Test oil : ISO 4113

Combination No. : 9 400 085 383

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1300AB1066  
: -13L  
Governor no. : 9 420 080 332

Cust. part No. : 026 074 53 02

**Customer-spec. information**

Customer : MBB  
Motor : OM 366 LA-EURO 1  
Power KW : 147.1

**TEST BENCH REQUIREMENTS**

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x Length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

**BASIC SETTING**

Rated speed rpm : 1300

Rack travel in mm : 11.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 104.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm :  $\pm$  0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 104.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 60.0  
 tolerance degree :  $\pm$  4.0  
 control lever  
 position degree : 109.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 10.60  
 Rated speed rpm : 1360  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1505  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 19.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 8.00  
 Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.45  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 11.45  
Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.45  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
  
Rated speed rpm : 500  
  
Pressure hPa : 240  
rack travel mm : 0.60  
Tolerance mm :  $\pm$  0.10  
  
Pressure hPa : 520  
rack travel mm : 1.65  
Tolerance mm :  $\pm$  0.05

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 94.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 48.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### BREAKAWAY

Rack travel in mm : 10.60  
Rated speed rpm : 1360  
Tolerance 1/min :  $\pm$  5

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.10.96  
Test oil : ISO 4113

Combination No. : 9 400 085 378

Injection pump  
Pump designation : PES6A100D320/3RS2827  
EP type number : 9 400 084 030

Governor  
Governor design. : RSV400...900A7C2209  
: -4R  
Governor no. : 9 420 083 301

Cust. part No. : 3355291

**Customer-spec. information**

Customer : CUMMINS  
Motor : 6 CTA 240  
Power KW : 180.0

**TEST BENCH REQUIREMENTS**

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

**Start of delivery blocking**

\*NW after s.o.d. : 11.00  
Tolerance : + 0.10  
Check  
tolerance °NW : + 0.23

Barrel no. : 1

**Beginning of delivery difference**

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.00

**BASIC SETTING**

Rated speed rpm : 880

Rack travel in mm : 13.05  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.5

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 400

Rack travel in mm : 4.20  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm :  $\pm$  0.35

governor spring  
pre-tension  
click setting x : 5.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 880

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 108.0  
tolerance degree :  $\pm$  4.0

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 923  
rack travel mm : 12.00

Rated speed rpm : 963  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1100

Rated speed rpm : 924  
rack travel mm : 12.00

Rated speed rpm : 964  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1100

Rated speed rpm : 925  
rack travel mm : 12.00

Rated speed rpm : 965  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1100

Rated speed rpm : 926  
rack travel mm : 12.00

Rated speed rpm : 966  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55

Rated speed rpm	:	1100
Rated speed rpm	:	927
rack travel mm	:	12.00
Rated speed rpm	:	967
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	928
rack travel mm	:	12.00
Rated speed rpm	:	968
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100

#### LOW IDLE

control lever		
position degree	:	78.0
tolerance degree	:	+ 4.0

Setting point w/out bumper spring

Rated speed rpm	:	400
rack travel mm	:	3.70

Testing:

Rated speed rpm	:	400
rack travel mm	:	4.20
Tolerance mm	:	+ 0.10

rack travel mm	:	2.00
Rated speed rpm	:	435
Tolerance 1/min	:	+ 30

Rated speed rpm	:	100
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CRT mm min.	:	> 19.00
-------------	---	---------

#### TORQUE CONTROL

Rated speed rpm	:	880
rack travel mm	:	13.05
Tolerance mm	:	+ 0.05

Rated speed rpm	:	500
rack travel mm	:	13.10

Tolerance mm	:	+ 0.10
Rated speed rpm	:	350
rack travel mm	:	14.40
Tolerance mm	:	+ 0.30

#### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.00
Tolerance mm	:	+ 1.00
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	166.0
cm <sup>3</sup> /1000 strokes	:	+ 8.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 11.0

#### LOW IDLE

Rated speed rpm	:	400
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	11.0
cm <sup>3</sup> /1000 strokes	:	+ 2.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 4.5
Spread		
cm <sup>3</sup> /1000 strokes	:	5.5
Check tolerance		
cm <sup>3</sup> /1000S.	:	9.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 28.10.96  
Test oil : ISO 4113

Combination No. : 9 400 085 385

Injection pump  
Pump designation : PES6A95D410RS2886  
EP type number : 9 400 084 039

Governor  
Governor design. : RQV300...1300AB1306L  
Governor no. : 9 420 080 384

Cust. part No. : 0260745502

## Customer-spec. information

Customer : MBB  
Motor : OM 366 A  
Power KW : 125.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 8.00

Tolerance mm :  $\pm$  0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 10.5

cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance

cm<sup>3</sup>/1000S. :  $\pm$  4.5

Spred

cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance

cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve

travel mm : 1.05

Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1500

guide sleeve

travel mm : 8.55

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500

guide sleeve

travel mm : 2.55

Tolerance mm :  $\pm$  0.25

Rated speed rpm : 750

guide sleeve

travel mm : 4.20

Tolerance mm :  $\pm$  0.10

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50

Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure

hPa : 900

Del. quantity

cm<sup>3</sup>/1000 strokes : 83.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 60.0

tolerance degree :  $\pm$  4.0

control lever  
position degree : 109.0

tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 9.80

Rated speed rpm : 1355

Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00

Rated speed rpm : 1485

Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50

Tolerance mm :  $\pm$  0.50

Rated speed rpm : 1600

##### LOW IDLE

control lever  
position degree : 70.0

tolerance degree :  $\pm$  4.0

control lever  
position degree : 22.0

tolerance degree :  $\pm$  4.0

##### Testing:

Rated speed rpm : 300

rack travel mm : 8.00

Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 8.70

Rated speed rpm : 375

##### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 10.85  
Tolerance mm : + 0.05

Rated speed rpm : 700  
rack travel mm : 11.75  
Tolerance mm : + 0.05

Rated speed rpm : 1000  
rack travel mm : 11.15  
Tolerance mm : + 0.05

Rated speed rpm : 600  
rack travel mm : 11.85  
Tolerance mm : + 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.85  
Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 250  
rack travel mm : 0.60  
Tolerance mm : + 0.10

Pressure hPa : 450  
rack travel mm : 1.75  
Tolerance mm : + 0.05

---

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 250

Check speed 1/min : > 80  
Check speed 1/min : < 260

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900

Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 82.5  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 42.5  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 3.0

---

##### BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1355  
Tolerance 1/min : + 5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.80  
Tolerance mm : + 0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 78.0  
cm<sup>3</sup>/1000 strokes : + 7.5  
Check tolerance cm<sup>3</sup>/1000S. : + 10.0

---

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm<sup>3</sup>/1000 strokes : 10.5  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
Spread cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 28.10.96  
Test oil : ISO 4113

Combination No. : 9 400 085 388

Injection pump  
Pump designation : PES6A95D410RS2886  
EP type number : 9 400 084 039

Governor  
Governor design. : RQV300...1300AB1306L  
Governor no. : 9 420 080 384

Cust. part No. : 0260746702

## Customer-spec. information

Customer : MBB  
Motor : OM 366A EURO I  
Power KW : 125.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300  
  
Rack travel in mm : 8.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spreed  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

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##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.05  
Tolerance mm :  $\pm$  0.25  
  
Rated speed rpm : 1500  
guide sleeve  
travel mm : 8.55  
Tolerance mm :  $\pm$  0.05  
  
Rated speed rpm : 500  
guide sleeve  
travel mm : 2.55  
Tolerance mm :  $\pm$  0.25  
  
Rated speed rpm : 750  
guide sleeve  
travel mm : 4.20  
Tolerance mm :  $\pm$  0.10

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##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
  
Rack travel in mm : 16.50  
Tolerance mm :  $\pm$  1.30

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##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spreed  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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##### CONTROL LEVER

control lever  
position degree : 60.0  
tolerance degree :  $\pm$  4.0  
  
control lever  
position degree : 109.0  
tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 9.80  
Rated speed rpm : 1355  
Tolerance 1/min :  $\pm$  5  
  
rack travel mm : 4.00  
Rated speed rpm : 1485  
Tolerance 1/min :  $\pm$  15  
  
rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1600

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##### LOW IDLE

control lever  
position degree : 70.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 22.0  
tolerance degree :  $\pm$  4.0

##### Testing:

Rated speed rpm : 300  
rack travel mm : 8.00  
Tolerance mm :  $\pm$  0.10  
  
Rated speed rpm : 100  
  
CRT mm min. : > 8.70  
  
Rated speed rpm : 375

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##### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 10.85  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 11.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 600  
rack travel mm : 11.85  
Tolerance mm :  $\pm$  0.05

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#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.85  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 250  
rack travel mm : 0.60  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 450  
rack travel mm : 1.75  
Tolerance mm :  $\pm$  0.05

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##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 250

Check speed 1/min : > 80  
Check speed 1/min : < 260

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##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900

Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 82.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 42.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0

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##### BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1355  
Tolerance 1/min :  $\pm$  5

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##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 78.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  10.0

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##### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm<sup>3</sup>/1000 strokes : 10.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 22.10.96  
Test oil : ISO 4113

Combination No. : 0 402 066 709

Injection pump  
Pump designation : PES6P120A120RS3358  
EP type number : 0 412 026 784

Governor  
Governor design. : RSV475...1100POA632  
Governor no. : 0 421 833 539

Cust. part No. : 3929602

## Customer-spec. information

Customer : CDC  
Motor : 6BTA ELITE  
Power KW : 130.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

°NW after s.o.d. : 6.75  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.20

Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 138.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 475  
 Rack travel in mm : 5.40  
 Tolerance mm :  $\pm$  0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 24.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm :  $\pm$  0.20  
 governor spring pre-tension click setting x : 2.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 138.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread

cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5

##### CONTROL LEVER

control lever position degree : 93.0  
 tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 10.20  
 Rated speed rpm : 1145  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 5.70  
 Rated speed rpm : 1230  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55  
 Rated speed rpm : 1400

##### LOW IDLE

control lever position degree : 78.0  
 tolerance degree :  $\pm$  4.0

##### Setting point w/out bumper spring

Rated speed rpm : 475  
 rack travel mm : 4.90

##### Testing:

Rated speed rpm : 475  
 rack travel mm : 5.40  
 Tolerance mm :  $\pm$  0.20  
 rack travel mm : 2.00  
 Rated speed rpm : 630  
 Tolerance 1/min :  $\pm$  30

Rated speed rpm : 100

CRT mm min. : < 19.00

##### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 11.20  
 Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.10

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#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.45  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 975  
rack travel mm : 11.20  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 575  
rack travel mm : 9.50  
Tolerance mm :  $\pm$  0.20

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#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 86.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

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#### BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

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#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

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#### LOW IDLE

Rated speed rpm : 475  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 611

Injection pump  
Pump designation : PES6P120A320RS7372  
EP type number : 0 412 726 940

Governor  
Governor design. : RQV250...1400PA1279K  
Governor no. : 0 421 815 508

Cust. part No. : 3866783

### Customer-spec. information

Customer : CDC  
Motor : 6BTA  
Power KW : 235.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 11.00  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 13.45  
Tolerance mm : + 0.05

cm3/1000 strokes :  $\pm$  1.0  
 Check tolerance cm3/1000S. :  $\pm$  4.0  
 Spread cm3/1000 strokes : 8.0  
 Check tolerance cm3/1000S. : 12.0  
 Rated speed rpm : 300  
 Rack travel in mm : 7.10  
 Tolerance mm :  $\pm$  0.20  
 cm3/1000 strokes :  $\pm$  3.0  
 Check tolerance cm3/1000S. :  $\pm$  5.0  
 Spread cm3/1000 strokes : 5.0  
 Check tolerance cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
 guide sleeve travel mm : 1.39  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1455  
 guide sleeve travel mm : 9.16  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 931  
 guide sleeve travel mm : 5.67  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 480  
 guide sleeve travel mm : 3.18  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1860  
 guide sleeve travel mm : 13.50  
 Tolerance mm :  $\pm$  0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400

Aneroid pressure hPa : 1200  
 cm3/1000 strokes :  $\pm$  1.0  
 Check tolerance cm3/1000S. :  $\pm$  4.0  
 Spread cm3/1000 strokes : 8.0  
 Check tolerance cm3/1000S. : 12.0

CONTROL LEVER

control lever position degree : 118.5  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 12.80  
 Rated speed rpm : 1465  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 6.80  
 Rated speed rpm : 1580  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1725

LOW IDLE

control lever position degree : 74.5  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.10  
 Tolerance mm :  $\pm$  0.20

Rated speed rpm : 200

CRT mm min. : > 8.60

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 13.45  
 Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
 rack travel mm : 13.20  
 Tolerance mm :  $\pm$  0.10  
  
 Rated speed rpm : 700  
 rack travel mm : 13.00  
 Tolerance mm :  $\pm$  0.20

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#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1400  
 Pressure hPa : 1200

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 1000  
 rack travel mm : 9.80  
 Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1400

Pressure hPa : 620  
 rack travel mm : 12.40  
 Tolerance mm :  $\pm$  0.20

Pressure hPa : 280  
 rack travel mm : 10.70  
 Tolerance mm :  $\pm$  0.20

---

##### START CUT-OUT

Rated speed rpm :  $>$  100  
 Rated speed rpm :  $<$  200

Check speed 1/min :  $>$  80  
 Check speed 1/min :  $<$  210

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##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1200  
 Rated speed rpm : 1000  
 cm3/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm3/1000S. :  $\pm$  6.0  
 Spread  
 cm3/1000 strokes : 8.0  
 Check tolerance  
 cm3/1000S. : 12.0

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 1000  
 cm3/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm3/1000S. :  $\pm$  3.0

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#### BREAKAWAY

Rack travel in mm : 12.80  
 Rated speed rpm : 1465  
 Tolerance 1/min :  $\pm$  5

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#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 21.00  
 Tolerance mm :  $\pm$  0.50  
 cm3/1000 strokes :  $\pm$  20.0  
 Check tolerance  
 cm3/1000S. :  $\pm$  25.0

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#### LOW IDLE

Rated speed rpm : 300  
 cm3/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm3/1000S. :  $\pm$  5.0  
 Spread  
 cm3/1000 strokes : 5.0  
 Check tolerance  
 cm3/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.09.96  
Test oil : ISO 4113

Combination No. : 0 402 746 652

Injection pump  
Pump designation : PES6P120A320RS7372  
EP type number : 0 412 726 940

Governor  
Governor design. : RQV250...1500PA1222K  
Governor no. : 0 421 815 466

Cust. part No. : 3897621

## Customer-spec. information

Customer : CDC  
Motor : 6BTA  
Power KW : 265.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + - 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + - 1.0

Prestroke mm : 4.00  
Tolerance mm : + - 0.05  
Check  
tolerance mm : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.75

## Start of delivery blocking

\*NW after s.o.d. : 12.00  
Tolerance : + - 0.50  
Check  
tolerance °NW : + - 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1500

Rack travel in mm : 13.75  
Tolerance mm : + - 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 212.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 300

Rack travel in mm : 6.40  
 Tolerance mm : + 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 28.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve travel mm : 1.00  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1570  
 guide sleeve travel mm : 9.90  
 Tolerance mm : + 0.15  
 Rated speed rpm : 986  
 guide sleeve travel mm : 5.80  
 Tolerance mm : + 0.25  
 Rated speed rpm : 480  
 guide sleeve travel mm : 3.00  
 Tolerance mm : + 0.25

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1500  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 212.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever position degree : 122.5  
 tolerance degree : + 6.0  
 RATED SPEED  
 rack travel mm : 12.70  
 Rated speed rpm : 1565  
 Tolerance 1/min : + 5  
 rack travel mm : 5.20  
 Rated speed rpm : 1695  
 Tolerance 1/min : + 15  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1760

##### LOW IDLE

control lever position degree : 72.0  
 tolerance degree : + 6.0  
 Testing:  
 Rated speed rpm : 300  
 rack travel mm : 6.40  
 Tolerance mm : + 0.20  
 Rated speed rpm : 225  
 CRT mm min. : > 8.00  
 Rated speed rpm : 350

##### TORQUE CONTROL

Rated speed rpm : 1500

rack travel mm : 13.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1200  
rack travel mm : 13.40  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 700  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.20

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#### ANEROID/ALTITUDE COMPENSATOR TEST

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##### SETTING

Rated speed rpm : 1500  
Pressure hPa : 1200

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1500  
rack travel mm : 9.60  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1500

Pressure hPa : 800  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 410  
rack travel mm : 10.50  
Tolerance mm :  $\pm$  0.20

---

##### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  240

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  250

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 108.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

##### BREAKAWAY

Rack travel in mm : 12.70  
Rated speed rpm : 1565  
Tolerance 1/min :  $\pm$  5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

---

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 28.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spred  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.10.96  
Test oil : ISO 4113

Combination No. : 0 402 736 910

Injection pump  
Pump designation : PES6P120A720RS7351  
EP type number : 0 412 726 922

Governor  
Governor design. : RQV450...1100PA1317K  
Governor no. : 0 421 815 545

Cust. part No. : 3931948

### Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 224.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.40  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 7.00  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.95  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 236.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 450

Rack travel in mm : 6.75  
 Tolerance mm :  $\pm$  0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 32.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 450  
 guide sleeve  
 travel mm : 1.33  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1163  
 guide sleeve  
 travel mm : 7.50  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 860  
 guide sleeve  
 travel mm : 4.55  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1560  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm :  $\pm$  0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure  
 hPa : 1600  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 236.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 113.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 13.90  
 Rated speed rpm : 1170  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 8.00  
 Rated speed rpm : 1250  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1350

LOW IDLE

control lever  
 position degree : 74.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 450  
 rack travel mm : 6.75  
 Tolerance mm :  $\pm$  0.20

Rated speed rpm : 375

CRT mm min. : > 7.90

Rated speed rpm : 525

TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 14.95

Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 750  
 rack travel mm : 13.95  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 500  
 rack travel mm : 13.60  
 Tolerance mm :  $\pm$  0.20

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1100  
 Pressure hPa : 1600

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 1000  
 rack travel mm : 13.25  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1100  
 Pressure hPa : 1190  
 rack travel mm : 14.15  
 Tolerance mm :  $\pm$  0.20  
 Pressure hPa : 1050  
 rack travel mm : 13.60  
 Tolerance mm :  $\pm$  0.20

---

##### START CUT-OUT

Rated speed rpm :  $>$  100  
 Rated speed rpm :  $<$  390  
 Check speed 1/min :  $>$  80  
 Check speed 1/min :  $<$  400

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1600  
 Rated speed rpm : 750  
 Del. quantity cm<sup>3</sup>/1000 strokes : 224.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread

cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Aneroid pressure hPa : -  
 Rated speed rpm : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 183.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

##### BREAKAWAY

Rack travel in mm : 13.90  
 Rated speed rpm : 1170  
 Tolerance 1/min :  $\pm$  15

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 21.00  
 Tolerance mm :  $\pm$  0.50  
 Del. quantity cm<sup>3</sup>/1000 strokes : 180.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  25.0

---

##### LOW IDLE

Rated speed rpm : 450  
 Del. quantity cm<sup>3</sup>/1000 strokes : 32.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  5.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 25.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 612

Injection pump  
Pump designation : PES6P120A320RS7372  
EP type number : 0 412 726 940

Governor  
Governor design. : RQV250...1300PA1282K  
Governor no. : 0 421 815 515

Cust. part No. : 3866784

### Customer-spec. information

Customer : CDC  
Motor : 6BTA  
Power KW : 187.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 11.00  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.35  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 155.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 300  
 Rack travel in mm : 7.00  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 28.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
 guide sleeve  
 travel mm : 1.39  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1355  
 guide sleeve  
 travel mm : 8.32  
 Tolerance mm : + 0.15  
 Rated speed rpm : 885  
 guide sleeve  
 travel mm : 5.46  
 Tolerance mm : + 0.25  
 Rated speed rpm : 480  
 guide sleeve  
 travel mm : 3.18  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1860  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 155.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

CONTROL LEVER

control lever  
 position degree : 114.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.30  
 Rated speed rpm : 1375  
 Tolerance 1/min : + 5

rack travel mm : 7.50  
 Rated speed rpm : 1465  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 75.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm : + 0.20

Rated speed rpm : 250

CRT mm min. : > 8.00

Rated speed rpm : 450

---

#### TORQUE CONTROL

Rated speed rpm	:	1300
rack travel mm	:	12.35
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	900
rack travel mm	:	12.10
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	700
rack travel mm	:	12.15
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	500
rack travel mm	:	11.80
Tolerance mm	:	+ - 0.20

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm	:	1300
Pressure hPa	:	1200

##### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	1000
rack travel mm	:	9.90
Tolerance mm	:	+ - 0.20
Rated speed rpm	:	1300
Pressure hPa	:	450
rack travel mm	:	11.50
Tolerance mm	:	+ - 0.20
Pressure hPa	:	255
rack travel mm	:	10.60
Tolerance mm	:	+ - 0.20

---

##### START CUT-OUT

Rated speed rpm	:	< 250
Check speed 1/min	:	< 260

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	1200
----------------------	---	------

Rated speed rpm	:	900
Del. quantity		
cm3/1000 strokes	:	152.5
cm3/1000 strokes	:	+ - 3.0
Check tolerance		
cm3/1000S.	:	+ - 6.0
Spread		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000S.	:	12.0
Aneroid pressure hPa	:	-
Rated speed rpm	:	1000
Del. quantity		
cm3/1000 strokes	:	104.0
cm3/1000 strokes	:	+ - 1.0
Check tolerance		
cm3/1000S.	:	+ - 3.0

---

##### BREAKAWAY

Rack travel in mm	:	11.30
Rated speed rpm	:	1375
Tolerance 1/min	:	+ - 5

---

##### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	11.90
Tolerance mm	:	+ - 0.50
Del. quantity		
cm3/1000 strokes	:	185.0
cm3/1000 strokes	:	+ - 20.0
Check tolerance		
cm3/1000S.	:	+ - 25.0

---

##### LOW IDLE

Rated speed rpm	:	300
Del. quantity		
cm3/1000 strokes	:	28.0
cm3/1000 strokes	:	+ - 3.0
Check tolerance		
cm3/1000S.	:	+ - 5.0
Spread		
cm3/1000 strokes	:	5.0
Check tolerance		
cm3/1000S.	:	8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 25.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 613

Injection pump  
Pump designation : PES6P120A320RS7372  
EP type number : 0 412 726 940

Governor  
Governor design. : RQV250...1250PA1283K  
Governor no. : 0 421 815 516

Cust. part No. : 3866785

### Customer-spec. information

Customer : CDC  
Motor : 6BTA  
Power KW : 164.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 11.00  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.05  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 129.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 300

Rack travel in mm : 7.40  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 23.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0  
 Spreed  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
 guide sleeve  
 travel mm : 1.39  
 Tolerance mm : + 0.20

Rated speed rpm : 1305  
 guide sleeve  
 travel mm : 7.93  
 Tolerance mm : + 0.15

Rated speed rpm : 864  
 guide sleeve  
 travel mm : 5.36  
 Tolerance mm : + 0.25

Rated speed rpm : 480  
 guide sleeve  
 travel mm : 3.18  
 Tolerance mm : + 0.25

Rated speed rpm : 1860  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 129.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever  
 position degree : 114.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 11.00  
 Rated speed rpm : 1310  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1475  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1600

##### LOW IDLE

control lever  
 position degree : 76.0  
 tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 7.40  
 Tolerance mm : + 0.20

Rated speed rpm : 275

CRT mm min. : > 8.20

Rated speed rpm : 450

---

**TORQUE CONTROL**

Rated speed rpm	:	1250
rack travel mm	:	12.05
Tolerance mm	:	+ 0.05
Rated speed rpm	:	900
rack travel mm	:	11.80
Tolerance mm	:	+ 0.10
Rated speed rpm	:	800
rack travel mm	:	12.00
Tolerance mm	:	+ 0.10
Rated speed rpm	:	600
rack travel mm	:	11.40
Tolerance mm	:	+ 0.20

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm	:	1250
Pressure hPa	:	900

**MEASUREMENT**

Pressure hPa	:	-
Rated speed rpm	:	1000
rack travel mm	:	10.00
Tolerance mm	:	+ 0.20
Rated speed rpm	:	1250
Pressure hPa	:	550
rack travel mm	:	11.10
Tolerance mm	:	+ 0.20
Pressure hPa	:	265
rack travel mm	:	10.30
Tolerance mm	:	+ 0.20

---

**START CUT-OUT**

Rated speed rpm	:	> 100
Rated speed rpm	:	< 250
Check speed 1/min	:	> 80
Check speed 1/min	:	< 260

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure	:	
hPa	:	900
Rated speed rpm	:	900
Del. quantity	:	
cm <sup>3</sup> /1000 strokes	:	132.0
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	+ 6.0
Spread	:	
cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	12.0
Aneroid pressure	:	
hPa	:	-
Rated speed rpm	:	1000
Del. quantity	:	
cm <sup>3</sup> /1000 strokes	:	93.5
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	+ 3.0

**BREAKAWAY**

Rack travel in mm	:	11.00
Rated speed rpm	:	1310
Tolerance 1/min	:	+ 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm	:	100
rack travel mm	:	21.00
Tolerance mm	:	+ 0.50
Del. quantity	:	
cm <sup>3</sup> /1000 strokes	:	185.0
cm <sup>3</sup> /1000 strokes	:	+ 20.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	+ 25.0

**LOW IDLE**

Rated speed rpm	:	300
Del. quantity	:	
cm <sup>3</sup> /1000 strokes	:	23.0
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	+ 5.0
Spread	:	
cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.09.96  
Test oil : ISO 4113

Combination No. : 0 401 849 759

Injection pump  
Pump designation : PE10P120A520/4LS3866  
EP type number : 0 411 829 712

Governor  
Governor design. : RQ300/1150PA1322  
Governor no. : 0 421 801 814

Cust. part No. :

---

Customer-spec. information  
Customer : DHI  
Motor : D2840L  
Power KW : 382.0

---

### TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

---

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

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### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.30  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 10- 9- 4- 1- 8  
: - 7- 6- 3- 5  
: - 2

Phasing : 0-45-72-117-144  
: -189-216-261-288  
: -333

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 10

---

### BASIC SETTING

Rated speed rpm : 1150

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Rack travel in mm : 12.00  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 192.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spred  
cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

Rated speed rpm : 300

Rack travel in mm : 6.90  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spred  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 2.11  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1222  
guide sleeve  
travel mm : 6.37  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1150  
guide sleeve  
travel mm : 6.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 413  
guide sleeve  
travel mm : 5.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 490  
guide sleeve  
travel mm : 6.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1450  
guide sleeve  
travel mm : 11.50  
Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1297  
Rack travel in mm : 10.98  
Tolerance mm :  $\pm$  0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 192.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spred  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

##### CONTROL LEVER

control lever  
position degree : 31.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 93.0  
tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 11.00  
Rated speed rpm : 1217  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1330  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1450

---

**LOW IDLE**

control lever  
position degree : 76.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 14.0  
tolerance degree :  $\pm$  4.0

**Testing:**

Rated speed rpm : 300  
rack travel mm : 6.90  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 411  
Tolerance 1/min :  $\pm$  20

Rated speed rpm : 200  
CRT mm min. :  $>$  9.36

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**TORQUE CONTROL**

Rated speed rpm : 1150  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 650  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.10

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.25  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 520

rack travel mm : 11.55  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 400  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.05

---

**START CUT-OUT**

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  250

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  270

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

**BREAKAWAY**

Rack travel in mm : 11.00  
Rated speed rpm : 1217  
Tolerance 1/min :  $\pm$  5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 20.0  
cm3/1000 strokes : + 3.0  
Check tolerance  
cm3/1000S. : + 6.0  
Speed  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.10.96  
Test oil : ISO 4113

Combination No. : 0 402 046 855

Injection pump  
Pump designation : PES6P110A320RS3329  
EP type number : 0 412 016 743

Governor  
Governor design. : RQV325...1300PA1119  
Governor no. : 0 421 814 083

Cust. part No. : 1284418/4

### Customer-spec. information

Customer : DAF  
Motor : NS156M  
Power KW : 156.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x Length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75  
Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 325  
 Rack travel in mm : 4.50  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 26.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.5  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  5.0  
 Spread cm<sup>3</sup>/1000 strokes : 12.0  
 Check tolerance cm<sup>3</sup>/1000S. : 15.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
 guide sleeve travel mm : 1.33  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 1353  
 guide sleeve travel mm : 8.29  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 900  
 guide sleeve travel mm : 4.92  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 405  
 guide sleeve travel mm : 2.07  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 455  
 guide sleeve travel mm : 2.52  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 530

guide sleeve travel mm : 2.93  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1640  
 guide sleeve travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1450  
 Rack travel in mm : 10.80  
 Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure hPa : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 144.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5

##### CONTROL LEVER

control lever position degree : 122.0  
 tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 10.85  
 Rated speed rpm : 1342  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1460  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1600

##### LOW IDLE

control lever  
position degree : 83.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 325  
rack travel mm : 4.50  
Tolerance mm : + 0.10

Rated speed rpm : 225  
CRT mm min. : > 6.00

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 11.85  
Tolerance mm : + 0.05

Rated speed rpm : 700  
rack travel mm : 11.85  
Tolerance mm : + 0.05

Rated speed rpm : 1300  
rack travel mm : 11.85  
Tolerance mm : + 0.05

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 11.85  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 7.35  
Tolerance mm : + 0.20

Rated speed rpm : 600

Pressure hPa : 370  
rack travel mm : 10.75  
Tolerance mm : + 0.05

Pressure hPa : 200  
rack travel mm : 8.40  
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000  
Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 145.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 5.0

Aneroid pressure hPa : -  
Rated speed rpm : 1000  
Del. quantity cm<sup>3</sup>/1000 strokes : 94.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 3.5

BREAKAWAY

Rack travel in mm : 10.85  
Rated speed rpm : 1342  
Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm : 325  
Del. quantity cm<sup>3</sup>/1000 strokes : 26.0  
cm<sup>3</sup>/1000 strokes : + 2.5  
Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
Speed cm<sup>3</sup>/1000 strokes : 12.0  
Check tolerance cm<sup>3</sup>/1000S. : 15.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.10.96  
Test oil : ISO 4113

Combination No. : 0 402 646 744

Injection pump  
Pump designation : PE6P120A320LS7872  
EP type number : 0 412 626 912

Governor  
Governor design. : RQV300...1050PA1259  
Governor no. : 0 421 814 169

Cust. part No. : 04221532 KY 0165-17

### Customer-spec. information

Customer : KHD  
Motor : BF6M1015C  
Power KW : 270.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 195  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 6- 3- 5- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 335.0

cm3/1000 strokes : + 1.0  
 Check tolerance cm3/1000S. : + 4.0  
 Spred cm3/1000 strokes : 6.0  
 Check tolerance cm3/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 4.60  
 Tolerance mm : + 0.10  
 Del. quantity cm3/1000 strokes : 23.0  
 cm3/1000 strokes : + 3.0  
 Check tolerance cm3/1000S. : + 6.0  
 Spred cm3/1000 strokes : 8.0  
 Check tolerance cm3/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.24  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1098  
 guide sleeve travel mm : 10.02  
 Tolerance mm : + 0.15  
 Rated speed rpm : 860  
 guide sleeve travel mm : 5.59  
 Tolerance mm : + 0.25  
 Rated speed rpm : 560  
 guide sleeve travel mm : 3.24  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1154  
 guide sleeve travel mm : 12.00  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1230

guide sleeve travel mm : 13.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1130  
 Rack travel in mm : 12.70  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure hPa : 1700  
 Del. quantity cm3/1000 strokes : 335.0  
 cm3/1000 strokes : + 1.0  
 Check tolerance cm3/1000S. : + 4.0  
 Spred cm3/1000 strokes : 6.0  
 Check tolerance cm3/1000S. : 9.0

CONTROL LEVER

control lever position degree : 122.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.40  
 Rated speed rpm : 1085  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1125  
 Tolerance 1/min : + 15  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1280

LOW IDLE

control lever position degree : 75.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 4.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200

CRT mm min. : > 6.10

Rated speed rpm : 345

#### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 1700  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 8.30  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 400

Pressure hPa : 450  
rack travel mm : 9.20  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 1000  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1085  
Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 8.30  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.10.96  
Test oil : ISO 4113

Combination No. : 0 402 646 771

Injection pump  
Pump designation : PE6P120A320LS7836-2  
EP type number : 0 412 626 944

Governor  
Governor design. : RQV300...1050PA1168  
: -8  
Governor no. : 0 421 814 141

Cust. part No. : 0250749802

### Customer-spec. information

Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 180.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 95  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x Length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.55  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

### BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 173.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 3.50  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 19.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.29  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1107  
 guide sleeve travel mm : 8.51  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 558  
 guide sleeve travel mm : 4.53  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 608  
 guide sleeve travel mm : 5.03  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 820  
 guide sleeve travel mm : 6.13  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1183

guide sleeve travel mm : 10.00  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1280  
 guide sleeve travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1150  
 Rack travel in mm : 11.40  
 Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure hPa : 700  
 Del. quantity cm<sup>3</sup>/1000 strokes : 173.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 119.0  
 tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 11.40  
 Rated speed rpm : 1095  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1170  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.75  
 Tolerance mm :  $\pm$  0.75  
 Rated speed rpm : 1300

##### LOW IDLE

control lever  
position degree : 65.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 3.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200

CRT mm min. :  $>$  5.30

Rated speed rpm : 350

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 550  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 700  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 10.90  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 11.45  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 300  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.20

#### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 132.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### BREAKAWAY

Rack travel in mm : 11.40  
Rated speed rpm : 1095  
Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 19.0  
cm3/1000 strokes : + 3.0  
Check tolerance  
cm3/1000S. : + 6.0  
Spred  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 10.0

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 23.10.96  
Test oil : ISO 4113

Combination No. : 0 402 648 789

Injection pump  
Pump designation : PE8P120A320LS7873  
EP type number : 0 412 628 880

Governor  
Governor design. : RQV300...1050PA1259  
Governor no. : 0 421 814 169

Cust. part No. : 04222488KY0165-17

**Customer-spec. information**

Customer : KHD  
Motor : BF8M1015/C  
Power KW : 400.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Overflow quantity  
min. l/h : 115  
Tolerance l/h : + - 20.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 4.05  
Tolerance mm : + - 0.05  
Check  
tolerance mm : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 1- 8- 7- 2- 6  
: - 5- 4- 3

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.50

**Start of delivery mark**

Tolerance : + - 0.50  
Check  
tolerance °NW : + - 0.75

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 1050

Rack travel in mm : 14.00

Tolerance mm	: + 0.05
Del. quantity cm <sup>3</sup> /1000 strokes	: 340.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
Rated speed rpm	: 300
Rack travel in mm	: 4.80
Tolerance mm	: + 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 23.0
cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spred cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.24
Tolerance mm	: + 0.20
Rated speed rpm	: 1103
guide sleeve travel mm	: 10.19
Tolerance mm	: + 0.15
Rated speed rpm	: 860
guide sleeve travel mm	: 5.59
Tolerance mm	: + 0.25
Rated speed rpm	: 560
guide sleeve travel mm	: 3.24
Tolerance mm	: + 0.25
Rated speed rpm	: 1154

guide sleeve travel mm	: 12.00
Tolerance mm	: + 0.25
Rated speed rpm	: 1230
guide sleeve travel mm	: 13.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1125
Rack travel in mm	: 13.00
Tolerance mm	: + 1.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure hPa	: 1600
Del. quantity cm <sup>3</sup> /1000 strokes	: 340.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever position degree	: 119.0
tolerance degree	: + 4.0

##### RATED SPEED

rack travel mm	: 13.00
Rated speed rpm	: 1090
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1140
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1300

##### LOW IDLE

control lever  
position degree : 71.0  
tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 4.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200  
CRT mm min. : > 6.30

Rated speed rpm : 345

---

TOQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 14.00  
Tolerance mm :  $\pm$  0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 1600  
rack travel mm : 14.00  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 9.00  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 400

Pressure hPa : 570  
rack travel mm : 10.50  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 1100  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -

Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 250.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 13.00  
Rated speed rpm : 1090  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 9.00  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 21.10.96  
Test oil : ISO 4113

Combination No. : 0 402 648 952

Injection pump  
Pump designation : PE8P120A320LS7856  
EP type number : 0 412 628 867

Governor  
Governor design. : RQV350...1050PA1051  
: -1  
Governor no. : 0 421 814 039

Cust. part No. : 0230747202

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM442 LA  
Power KW : 320.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Overflow quantity  
min. l/h : 70  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.25  
Tolerance mm : + 0.05

Del. quantity : 239.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance : + 4.0  
 Spread : 6.0  
 Check tolerance : 9.0  
 Rated speed rpm : 350  
 Rack travel in mm : 4.60  
 Tolerance mm : + 0.10  
 Del. quantity : 19.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance : + 6.0  
 Spread : 8.0  
 Check tolerance : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve travel mm : 1.25  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1108  
 guide sleeve travel mm : 9.65  
 Tolerance mm : + 0.25  
 Rated speed rpm : 453  
 guide sleeve travel mm : 2.55  
 Tolerance mm : + 0.25  
 Rated speed rpm : 770  
 guide sleeve travel mm : 4.95  
 Tolerance mm : + 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1170  
 Rack travel in mm : 12.80  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure hPa : 1000  
 Del. quantity : 239.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance : + 4.0  
 Spread : 6.0  
 Check tolerance : 9.0

CONTROL LEVER

control lever position degree : 106.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.90  
 Rated speed rpm : 1085  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1160  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 72.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
 rack travel mm : 4.60  
 Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 7.80

Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 600  
rack travel mm : 13.25  
Tolerance mm : + 0.05

Rated speed rpm : 1050  
rack travel mm : 13.00  
Tolerance mm : + 0.10

Rated speed rpm : 1050  
rack travel mm : 10.40  
Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : -

##### MEASUREMENT

Pressure hPa : 250  
Rated speed rpm : 500  
rack travel mm : 0.35  
Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 600  
rack travel mm : 2.30  
Tolerance mm : + 0.10

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check speed 1/min : > 80  
Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000  
Rated speed rpm : 1050

Del. quantity cm3/1000 strokes : 224.0  
cm3/1000 strokes : + 2.0  
Check tolerance cm3/1000S. : + 5.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : 1000  
Rated speed rpm : 1050  
Del. quantity cm3/1000 strokes : 168.0  
cm3/1000 strokes : + 2.0  
Check tolerance cm3/1000S. : + 5.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 143.0  
cm3/1000 strokes : + 1.0  
Check tolerance cm3/1000S. : + 4.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

#### BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 1085  
Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm3/1000 strokes : 250.0  
cm3/1000 strokes : + 10.0  
Check tolerance cm3/1000S. : + 14.0

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity cm3/1000 strokes : 19.0  
cm3/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.10.96  
Test oil : ISO 4113

Combination No. : 0 402 676 830

Injection pump  
Pump designation : PE6P120A320LS7894  
EP type number : 0 412 626 954

Governor  
Governor design. : RSV600...1050P0A642  
Governor no. : 0 421 833 556

Cust. part No. : 0270746002

### Customer-spec. information

Customer : MB-NFZ  
Motor : OM 441 LA  
Power KW : 285.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 105  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.75  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-45-120-165-240  
: -285  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 6

### BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 13.70  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 251.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spread  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 600

Rack travel in mm : 4.10  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0

cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm :  $\pm$  0.20

governor spring  
pre-tension  
click setting x : 4.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075

Aneroid pressure

hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 251.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 83.0  
tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 12.70  
Rated speed rpm : 1115  
Tolerance 1/min :  $\pm$  5

##### LOW IDLE

control lever  
position degree : 68.0  
tolerance degree :  $\pm$  4.0

##### Testing:

Rated speed rpm : 600  
rack travel mm : 4.10  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 630  
Tolerance 1/min :  $\pm$  30

Rated speed rpm : 100

CRT mm min. : > 19.50

##### SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

##### TORQUE CONTROL

Rated speed rpm : 1075  
rack travel mm : 13.70  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 14.75  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1000

Rack travel mm : 14.35  
Tolerance mm :  $\pm$  0.10

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure : -  
hPa  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 291.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

---

#### BREAKAWAY

Rack travel in mm : 12.70  
Rated speed rpm : 1115  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 290.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

#### LOW IDLE

Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 07.08.96  
Test oil : ISO 4113

Combination No. : 0 402 736 891

Injection pump  
Pump designation : PES6P120A120RS7314  
EP type number : 0 412 726 901

Governor  
Governor design. : RQV400...1250PA964  
: -33K  
Governor no. : 0 421 815 487

Cust. part No. : 3282608

Customer-spec. information  
Customer : CUMMINS  
Motor : 6BTAA  
Power KW : 173.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.70  
Tolerance mm : + 0.05

Check  
tolerance mm : + 0.10

Rack travel in mm : 12.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

\*NW after s.o.d. : 6.50  
Tolerance : + 0.50

Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 15.30  
 Tolerance mm :  $\pm$  0.05  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 160.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 400  
 Rack travel in mm : 6.50  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 20.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400  
 guide sleeve  
 travel mm : 1.85  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1315  
 guide sleeve  
 travel mm : 9.98  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 935  
 guide sleeve  
 travel mm : 6.85  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 600  
 guide sleeve  
 travel mm : 4.13  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1610  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm :  $\pm$  0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1400  
 Rack travel in mm : 14.30  
 Tolerance mm :  $\pm$  2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 160.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 66.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 119.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 14.30  
 Rated speed rpm : 1295  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
 Rated speed rpm : 1450  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1550

LOW IDLE

control lever  
position degree : 68.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 16.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 400  
rack travel mm : 6.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 300

CRT mm min. : > 8.00

Rated speed rpm : 430

#### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 15.30  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 13.70  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 550  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 400  
rack travel mm : 12.50  
Tolerance mm :  $\pm$  0.15

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1500  
rack travel mm : 15.30  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1250

Pressure hPa : 275  
rack travel mm : 11.70  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 485  
rack travel mm : 13.80  
Tolerance mm :  $\pm$  0.05

#### START CUT-OUT

Rated speed rpm : > 270  
Rated speed rpm : < 340

Check speed 1/min : > 250  
Check speed 1/min : < 360

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 146.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread cm<sup>3</sup>/1000 strokes : 12.0  
Check tolerance cm<sup>3</sup>/1000S. : 16.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 79.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### BREAKAWAY

Rack travel in mm : 14.30  
Rated speed rpm : 1295  
Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 215.0

cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 19.0

---

LOW IDLE

Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spred  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 603

Injection pump  
Pump designation : PES6P120A320RS7359  
EP type number : 0 412 726 925

Governor  
Governor design. : RQ300/1050PA999-7  
Governor no. : 0 421 801 799

Cust. part No. : CCEP 5153 66-224

### Customer-spec. information

Customer : RENAULT V.I.  
Motor : MIHR062045 A41  
Power KW : 188.0

### TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.70  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.25  
Tolerance mm : + 0.75

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### CRT ZERO POSITION

Rack travel in mm : 12.30  
Tolerance mm : + 0.05

### BASIC SETTING

Rated speed rpm : 600

Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 192.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 275  
 Rack travel in mm : -5.90  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 37.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  5.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
 guide sleeve travel mm : 1.75  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1145  
 guide sleeve travel mm : 6.55  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 1050  
 guide sleeve travel mm : 6.00  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 594  
 guide sleeve travel mm : 5.11  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 720

guide sleeve travel mm : 6.00  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 1380  
 guide sleeve travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 20.00  
 Tolerance mm :  $\pm$  0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure hPa : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 192.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 276.0  
 tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : -1.00  
 Rated speed rpm : 1130  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : -8.30  
 Rated speed rpm : 1260  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : -11.80  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1375

##### LOW IDLE

control lever  
position degree : 255.0  
tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 275  
rack travel mm : -5.90  
Tolerance mm :  $\pm$  0.10

rack travel mm : -10.30  
Rated speed rpm : 520  
Tolerance 1/min :  $\pm$  20

Rated speed rpm : 175

CRT mm min. : > -4.00

TORQUE CONTROL

Rated speed rpm : 600  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1050  
Tolerance mm :  $\pm$  0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -1.35  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 220  
rack travel mm : -0.45  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 160  
rack travel mm : -0.85  
Tolerance mm :  $\pm$  0.05

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 195

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 199.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 151.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1130  
Tolerance 1/min :  $\pm$  15

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

LOW IDLE

Rated speed rpm : 275  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 608

Injection pump  
Pump designation : PES6P120A320RS7359  
EP type number : 0 412 726 925

Governor  
Governor design. : RQ275/1050PA1275  
Governor no. : 0 421 801 805

Cust. part No. : CCEP 5157A 66-222

### Customer-spec. information

Customer : RENAULT V.I.  
Motor : MIDR062045 F/C41  
Power KW : 152.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 220  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.70  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.25  
Tolerance mm : + 0.75

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

\*NW after s.o.d. : -0.45  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

### CRT ZERO POSITION

Rack travel in mm : 11.70

Tolerance mm : + 0.05

#### BASIC SETTING

Rated speed rpm : 1050

Del. quantity cm<sup>3</sup>/1000 strokes : 176.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 4.0

Spread cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -5.40

Tolerance mm : + 0.10

Del. quantity cm<sup>3</sup>/1000 strokes : 30.0

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance cm<sup>3</sup>/1000S. : + 5.0

Spread cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 275

guide sleeve

travel mm : 2.44

Tolerance mm : + 0.20

Rated speed rpm : 1122

guide sleeve

travel mm : 7.06

Tolerance mm : + 0.15

Rated speed rpm : 1050

guide sleeve

travel mm : 6.70

Tolerance mm : + 0.10

Rated speed rpm : 648

guide sleeve  
travel mm : 6.18  
Tolerance mm : + 0.10

Rated speed rpm : 375  
guide sleeve  
travel mm : 5.00  
Tolerance mm : + 0.10

Rated speed rpm : 450  
guide sleeve  
travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 1300  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

Rated speed rpm : 873  
guide sleeve  
travel mm : 6.52  
Tolerance mm : + 0.10

#### GUIDE SLEEVE POSITION

Rated speed rpm : 500

Rack travel in mm : 20.00  
Tolerance mm : + 0.80

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure hPa : 1000  
Del. quantity cm<sup>3</sup>/1000 strokes : 176.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
Spread cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 276.0  
tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : -1.00  
Rated speed rpm : 1115

Tolerance 1/min :  $\pm$  5  
 rack travel mm : -7.70  
 Rated speed rpm : 1205  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : -11.20  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1350

#### LOW IDLE

control lever  
 position degree : 256.0  
 tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 275  
 rack travel mm : -5.40  
 Tolerance mm :  $\pm$  0.10  
 rack travel mm : -9.60  
 Rated speed rpm : 375  
 Tolerance 1/min :  $\pm$  20  
 Rated speed rpm : 200  
 CRT mm min. : < -3.50

#### TORQUE CONTROL

Rated speed rpm : 1050  
 Rated speed rpm : 600  
 rack travel mm : 1.10  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 800  
 rack travel mm : 0.70  
 Tolerance mm :  $\pm$  0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
 Pressure hPa : 1000  
 rack travel mm : 1.20  
 Tolerance mm :  $\pm$  0.10

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 rack travel mm : -0.60  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 500  
 Pressure hPa : 280  
 rack travel mm : 0.65  
 Tolerance mm :  $\pm$  0.15  
 Pressure hPa : 160  
 rack travel mm : -0.15  
 Tolerance mm :  $\pm$  0.05

#### START CUT-OUT

Rated speed rpm : > 100  
 Rated speed rpm : < 195  
 Check  
 speed 1/min : > 80  
 Check  
 speed 1/min : < 215

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1000  
 Rated speed rpm : 600  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 195.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 151.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### BREAKAWAY

Rack travel in mm : -1.00  
 Rated speed rpm : 1115  
 Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

---

LOW IDLE

Rated speed rpm : 275  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 649

Injection pump  
Pump designation : PES6P120A320RS7359  
EP type number : 0 412 726 925

Governor  
Governor design. : RQ275/1050PA1217  
Governor no. : 0 421 801 782

Cust. part No. : CCEP5150A 66  
: -225/228

### Customer-spec. information

Customer : RENAULT V.I.  
Motor : MIDR062045 I-B41  
Power KW : 185.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 220  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.70  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.25  
Tolerance mm : + 0.75

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

\*NW after s.o.d. : -0.95  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### CRT ZERO POSITION

Rack travel in mm : 12.40

Tolerance mm : + 0.05

#### BASIC SETTING

Rated speed rpm : 600

Del. quantity cm<sup>3</sup>/1000 strokes : 186.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 4.0

Spread cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -6.20

Tolerance mm : + 0.10

Del. quantity cm<sup>3</sup>/1000 strokes : 31.0

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance cm<sup>3</sup>/1000S. : + 5.0

Spread cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 275

guide sleeve travel mm : 1.37

Tolerance mm : + 0.10

Rated speed rpm : 1137

guide sleeve travel mm : 6.37

Tolerance mm : + 0.10

Rated speed rpm : 1050

guide sleeve travel mm : 6.00

Tolerance mm : + 0.10

Rated speed rpm : 391

guide sleeve travel mm : 4.37

Tolerance mm : + 0.10

Rated speed rpm : 490

guide sleeve travel mm : 6.00

Tolerance mm : + 0.10

Rated speed rpm : 1340

guide sleeve travel mm : 11.50

Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00

Tolerance mm : + 0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600

Aneroid pressure hPa : 1000

Del. quantity cm<sup>3</sup>/1000 strokes : 186.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 4.0

Spread cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 274.0

tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : -1.00

Rated speed rpm : 1120

Tolerance 1/min : + 5

rack travel mm : -8.40

Rated speed rpm : 1235

Tolerance 1/min : + 15

rack travel mm : -11.90

Tolerance mm : + 0.50

Rated speed rpm : 1350

---

#### LOW IDLE

control lever  
position degree : 252.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 275  
rack travel mm : -6.20  
Tolerance mm :  $\pm$  0.10

rack travel mm : -10.50  
Rated speed rpm : 385  
Tolerance 1/min :  $\pm$  20

Rated speed rpm : 200

CRT mm min. : < -5.00

---

#### TORQUE CONTROL

Rated speed rpm : 600

Rated speed rpm : 1050  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -1.50  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : -0.45  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 160  
rack travel mm : -1.20  
Tolerance mm :  $\pm$  0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 195

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 215

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 191.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1120  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

#### LOW IDLE

Rated speed rpm : 275  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 31.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

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End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.10.96  
Test oil : ISO 4113

Combination No. : 0 402 946 028

Injection pump  
Pump designation : PES6P120A320RS8047  
EP type number : 0 412 926 029

Governor  
Governor design. : RQV275...1175PA1312  
: -1K  
Governor no. : 0 421 815 965

Cust. part No. : CCEP 5161 66-245

## Customer-spec. information

Customer : RENAULT V.I.  
Motor : MIDR 060226 M71  
Power KW : 158.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 140  
Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

\*NW after s.o.d. : -0.70  
Tolerance : + 0.50

Check  
tolerance °NW : + 0.75

Barrel no. : 1

## Beginning of delivery difference

betw. rack trav.  
mm : 21.00  
and maximum rack  
travel : 19.50

Difference • CS : 3.00

CRT ZERO POSITION

Rack travel in mm : 13.30  
Tolerance mm : + 0.05

BASIC SETTING

Rated speed rpm : 1175

Del. quantity  
cm<sup>3</sup>/1000 strokes : 269.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -7.20  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.0

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 0.98  
Tolerance mm : + 0.20

Rated speed rpm : 1270  
guide sleeve  
travel mm : 9.30  
Tolerance mm : + 0.15

Rated speed rpm : 893  
guide sleeve  
travel mm : 6.60  
Tolerance mm : + 0.25

Rated speed rpm : 560  
guide sleeve  
travel mm : 4.01  
Tolerance mm : + 0.25

Rated speed rpm : 1650  
guide sleeve  
travel mm : 13.50  
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1420

Rack travel in mm : 12.20  
Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175  
Aneroid pressure  
hPa : 1600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 269.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 294.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : -1.00  
Rated speed rpm : 1255  
Tolerance 1/min : + 15

rack travel mm : -9.20  
Rated speed rpm : 1431  
Tolerance 1/min : + 5

rack travel mm : -12.85  
Tolerance mm : + 0.50

Rated speed rpm : 1550

rack travel mm : -2.40  
Tolerance mm : + 0.05

#### LOW IDLE

control lever  
position degree : 243.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 275  
rack travel mm : -7.20  
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : > -6.50

Rated speed rpm : 390

#### TORQUE CONTROL

Rated speed rpm : 1175

Rated speed rpm : 650  
rack travel mm : -1.75  
Tolerance mm : + 0.10

Rated speed rpm : 350  
rack travel mm : -3.00  
Tolerance mm : + 0.25

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1175  
Pressure hPa : 1600

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -5.60  
Tolerance mm : + 0.20

Rated speed rpm : 1175

Pressure hPa : 320  
rack travel mm : -4.00  
Tolerance mm : + 0.20

Pressure hPa : 560

#### START CUT-OUT

Rated speed rpm : > 175  
Rated speed rpm : < 240

Check  
speed 1/min : > 155  
Check  
speed 1/min : < 260

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 254.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1255  
Tolerance 1/min : + 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 87.0  
cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 14.0

#### LOW IDLE

Rated speed rpm : 275

Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 30.10.96  
Test oil : ISO 4113

Combination No. : 0 401 856 160

Injection pump  
Pump designation : PE6P110A721RS369  
EP type number : 0 411 816 121

Governor  
Governor design. : RQV250...1100PA1138  
Governor no. : 0 421 814 090

Cust. part No. :

Customer-spec. information  
Customer : HAEP  
Motor : H61.G05  
Power KW : 162.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.75  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 126.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0  
 Rated speed rpm : 250  
 Rack travel in mm : 9.40  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.40  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 1157  
 guide sleeve  
 travel mm : 8.43  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 765  
 guide sleeve  
 travel mm : 5.41  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 316  
 guide sleeve  
 travel mm : 2.13  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 366  
 guide sleeve  
 travel mm : 2.66  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 440  
 guide sleeve  
 travel mm : 3.24  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1430  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1225  
 Rack travel in mm : 12.70  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 126.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 49.0  
 tolerance degree :  $\pm$  4.0  
 control lever  
 position degree : 107.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 12.70  
 Rated speed rpm : 1145  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1275  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1400

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**LOW IDLE**

control lever  
position degree : 81.0  
tolerance degree : + 4.0

control lever  
position degree : 22.0  
tolerance degree : + 4.0

**Testing:**

Rated speed rpm : 250  
rack travel mm : 9.40  
Tolerance mm : + 0.10

Rated speed rpm : 150

CRT mm min. : > 12.00

Rated speed rpm : 270

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**TORQUE CONTROL**

Rated speed rpm : 700  
rack travel mm : 14.50  
Tolerance mm : + 0.10

Rated speed rpm : 890  
rack travel mm : 14.40  
Tolerance mm : + 0.10

Rated speed rpm : 995  
rack travel mm : 13.95  
Tolerance mm : + 0.10

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**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 14.50  
Tolerance mm : + 0.10

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 12.65  
Tolerance mm : + 0.10

Rated speed rpm : 500  
Pressure hPa : 265  
rack travel mm : 13.10  
Tolerance mm : + 0.20

Pressure hPa : 410  
rack travel mm : 14.20  
Tolerance mm : + 0.05

---

**START CUT-OUT**

Rated speed rpm : > 100  
Rated speed rpm : < 170

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 190

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

**BREAKAWAY**

Rack travel in mm : 12.70  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

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**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 16.20  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
cm<sup>3</sup>/1000 strokes : + 10.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 14.0

---

LOW IDLE

Rated speed rpm : 250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0  
Spreed  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 7.0

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End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 30.10.96  
Test oil : ISO 4113

Combination No. : 0 401 876 777

Injection pump  
Pump designation : PE6P120B320RS3261  
EP type number : 0 411 826 821

Governor  
Governor design. : RSV250...1100POA655  
Governor no. : 0 421 833 573

Cust. part No. : 3826513 P01 v.10.96

**Customer-spec. information**

Customer : PENTA  
Motor : TAMD 102 A  
Power KW : 294.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Vibration  
damper  
(RoBo diaphragm) : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 067

Outside diameter : 6.0

× inside diameter : 3.0  
× Length mm : 1000

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 8.10  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

**Start of delivery mark**

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 700

Rack travel in mm : 12.15  
Tolerance mm : ± 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 260.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 250  
 Rack travel in mm : 6.50  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 23.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 260.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 44.0  
 tolerance degree : + 4.0

control lever  
 position degree : 94.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.10  
 Rated speed rpm : 1145  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1210  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1350

rack travel mm : 4.00  
 Rated speed rpm : 1220

LOW IDLE

control lever  
 position degree : 69.0  
 tolerance degree : + 4.0

control lever  
 position degree : 19.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 250  
 rack travel mm : 6.00

Testing:

Rated speed rpm : 250  
 rack travel mm : 6.50  
 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 700

rack travel mm : 12.15  
Tolerance mm :  $\pm$  0.05

Tolerance mm :  $\pm$  1.00

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.15  
Tolerance mm :  $\pm$  0.05

##### LOW IDLE

Rated speed rpm : 250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.10  
Tolerance mm :  $\pm$  0.10

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Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 3.60  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 140  
rack travel mm : 0.25  
Tolerance mm :  $\pm$  0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### BREAKAWAY

Rack travel in mm : 11.10  
Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.00

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.10.96  
Test oil : ISO 4113

Combination No. : 0 402 646 651

Injection pump  
Pump designation : PE6P120A320LS7357  
EP type number : 0 412 626 934

Governor  
Governor design. : RQV325...975PA1190K  
Governor no. : 0 421 815 450

Cust. part No. :

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Customer-spec. information  
Customer : LIAZ  
Motor : M640T  
Power KW : 280.0

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### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.80  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 12.00  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 725

Rack travel in mm : 14.40  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 267.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000s. : + 4.0

Spred cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000s. : 9.0

Rack travel in mm : 4.10  
Tolerance mm : + 0.30

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
guide sleeve travel mm : 1.43  
Tolerance mm : + 0.15

Rated speed rpm : 1033  
guide sleeve travel mm : 10.20  
Tolerance mm : + 0.20

Rated speed rpm : 620  
guide sleeve travel mm : 5.01  
Tolerance mm : + 0.25

Rated speed rpm : 370  
guide sleeve travel mm : 2.00  
Tolerance mm : + 0.25

Rated speed rpm : 420  
guide sleeve travel mm : 2.64  
Tolerance mm : + 0.25

Rated speed rpm : 460  
guide sleeve travel mm : 3.02  
Tolerance mm : + 0.25

Rated speed rpm : 1141  
guide sleeve travel mm : 12.00  
Tolerance mm : + 0.25

Rated speed rpm : 1240  
guide sleeve travel mm : 13.50

Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1070

Rack travel in mm : 14.10  
Tolerance mm : + 1.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 725  
Aneroid pressure hPa : -  
Det. quantity cm<sup>3</sup>/1000 strokes : 267.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000s. : + 4.0  
Spred cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000s. : 9.0

##### CONTROL LEVER

control lever position degree : 70.0  
tolerance degree : + 4.0

control lever position degree : 122.0  
tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 14.10  
Rated speed rpm : 1020  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1125  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1200

##### LOW IDLE

control lever position degree : 67.0  
tolerance degree : + 4.0

control lever  
position degree : 14.0  
tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 325  
rack travel mm : 4.10  
Tolerance mm :  $\pm$  0.30

Rated speed rpm : 225

CRT mm min. : > 5.30

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 725  
rack travel mm : 14.40  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 975  
rack travel mm : 15.15  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 600  
rack travel mm : 13.10  
Tolerance mm :  $\pm$  0.20

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 975  
Pressure hPa : 1500  
rack travel mm : 15.15  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 975  
rack travel mm : 9.40  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 975

Pressure hPa : 320  
rack travel mm : 11.00  
Tolerance mm :  $\pm$  0.25

Pressure hPa : 590  
rack travel mm : 13.50  
Tolerance mm :  $\pm$  0.05

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 245

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 265

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 975  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 262.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 141.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

BREAKAWAY

Rack travel in mm : 14.10  
Rated speed rpm : 1020  
Tolerance 1/min :  $\pm$  5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 300.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 24.10.96  
Test oil : ISO 4113

Combination No. : 0 402 646 744AC

Injection pump  
Pump designation : PE6P120A320LS7872  
EP type number : 0 412 626 912

Governor  
Governor design. : RQV300...1050PA1259  
Governor no. : 0 421 814 169

Cust. part No. : 04221532 KY 0165-17

### Customer-spec. information

Customer : KHD  
Motor : BF6M1015C  
Power KW : 270.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 195  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x Length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 6- 3- 5- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.20  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 275.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spreed cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 4.60  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 23.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spreed cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.24  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1098  
 guide sleeve travel mm : 10.02  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 860  
 guide sleeve travel mm : 5.59  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 560  
 guide sleeve travel mm : 3.24  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1154  
 guide sleeve travel mm : 12.00

Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1230  
 guide sleeve travel mm : 13.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1130  
 Rack travel in mm : 12.70  
 Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure hPa : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 275.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spreed cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 122.0  
 tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 10.20  
 Rated speed rpm : 1085  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1118  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1280

##### LOW IDLE

control lever position degree : 75.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 4.60  
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 6.10

Rated speed rpm : 345

---

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 11.20  
Tolerance mm : + 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 1000  
rack travel mm : 11.25  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 8.10  
Tolerance mm : + 0.20

Rated speed rpm : 400

Pressure hPa : 400  
rack travel mm : 9.70  
Tolerance mm : + 0.10

Pressure hPa : 600  
rack travel mm : 10.80  
Tolerance mm : + 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 400  
Del. quantity  
cm3/1000 strokes : 230.0

cm3/1000 strokes : + 1.0  
Check tolerance  
cm3/1000S. : + 4.0

---

BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 1085  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 8.10  
Tolerance mm : + 0.30  
Del. quantity  
cm3/1000 strokes : 135.0  
cm3/1000 strokes : + 20.0  
Check tolerance  
cm3/1000S. : + 24.0

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 23.0  
cm3/1000 strokes : + 3.0  
Check tolerance  
cm3/1000S. : + 6.0  
Spread  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.10.96  
Test oil : ISO 4113

Combination No. : 0 402 646 992

Injection pump  
Pump designation : PE6P120A720RS7021  
EP type number : 0 412 626 869

Governor  
Governor design. : RQ200/1000PA1036  
Governor no. : 0 421 801 649

Cust. part No. : 1363610

---

Customer-spec. information  
Customer : SCANIA  
Motor : DSI11E01

---

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

---

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45

Tolerance mm	: + 0.05
Del. quantity cm <sup>3</sup> /1000 strokes	: 258.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0
Rated speed rpm	: 250
Rack travel in mm	: 6.30
Tolerance mm	: + 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 31.0
cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spred cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve travel mm	: 1.08
Tolerance mm	: + 0.10
Rated speed rpm	: 1054
guide sleeve travel mm	: 4.39
Tolerance mm	: + 0.10
Rated speed rpm	: 1000
guide sleeve travel mm	: 4.00
Tolerance mm	: + 0.10
Rated speed rpm	: 353
guide sleeve travel mm	: 3.46
Tolerance mm	: + 0.10
Rated speed rpm	: 420

guide sleeve travel mm	: 4.00
Tolerance mm	: + 0.10
Rated speed rpm	: 1460
guide sleeve travel mm	: 11.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 600
Rack travel in mm	: 16.50
Tolerance mm	: + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: -
Del. quantity cm <sup>3</sup> /1000 strokes	: 258.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

##### CONTROL LEVER

control lever position degree	: 43.0
tolerance degree	: + 4.0
control lever position degree	: 98.0
tolerance degree	: + 4.0

##### RATED SPEED

rack travel mm	: 12.40
Rated speed rpm	: 1045
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1185
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1300

---

## LOW IDLE

### control lever

position degree : 66.0  
tolerance degree :  $\pm$  4.0

### control lever

position degree : 11.0  
tolerance degree :  $\pm$  4.0

### Testing:

Rated speed rpm : 250  
rack travel mm : 6.30  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 350  
Tolerance 1/min :  $\pm$  30

Rated speed rpm : 150

CRT mm min. : > 8.50

---

## TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.10

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 235

rack travel mm : 13.25  
Tolerance mm :  $\pm$  0.05

---

## FUEL DELIVERY CHARACTERISTICS

### Aneroid pressure

hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 227.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 268.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

## BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1045  
Tolerance 1/min :  $\pm$  5

---

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

## LOW IDLE

Rated speed rpm : 250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 31.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 09.02.96  
Test oil : ISO 4113

Combination No. : 0 402 744 803

Injection pump  
Pump designation : PES4P120A320RS7312  
: -1  
EP type number : 0 412 724 803

Governor  
Governor design. : RQV400...1200PA1131  
: -1  
Governor no. : 0 421 814 154

Cust. part No. : 51.11103-7470

### Customer-spec. information

Customer : MAN  
Motor : D0824 LFL 06  
Power KW : 114.0

### TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + - 10.0

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5

Tolerance bar : + - 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 5.25  
Tolerance mm : + - 0.05  
Check  
tolerance mm : + - 0.10

Rack travel in mm : 13.00  
Tolerance mm : + - 0.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.75

### Start of delivery blocking

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 5.20  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 73.0

cm3/1000 strokes	: + 5.0
Check tolerance cm3/1000s.	: + 8.0
Spred	
cm3/1000 strokes	: 3.0
Check tolerance cm3/1000s.	: 6.0
Rated speed rpm	: 1000
Rack travel in mm	: 13.05
Tolerance mm	: + 0.05
Del. quantity cm3/1000 strokes	: 206.0
cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 4.0
Spred	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Rated speed rpm	: 400
Rack travel in mm	: 4.80
Tolerance mm	: + 0.10
Del. quantity cm3/1000 strokes	: 40.0
cm3/1000 strokes	: + 3.0
Check tolerance cm3/1000s.	: + 6.0
Spred	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 400
guide sleeve travel mm	: 1.57
Tolerance mm	: + 0.20
Rated speed rpm	: 1261

guide sleeve travel mm	: 10.15
Tolerance mm	: + 0.15
Rated speed rpm	: 836
guide sleeve travel mm	: 5.76
Tolerance mm	: + 0.25
Rated speed rpm	: 458
guide sleeve travel mm	: 2.45
Tolerance mm	: + 0.25
Rated speed rpm	: 508
guide sleeve travel mm	: 3.10
Tolerance mm	: + 0.25
Rated speed rpm	: 540
guide sleeve travel mm	: 3.61
Tolerance mm	: + 0.25
Rated speed rpm	: 1490
guide sleeve travel mm	: 13.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1330
Rack travel in mm	: 12.00
Tolerance mm	: + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure hPa	: 1200
Del. quantity cm3/1000 strokes	: 206.0
cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 4.0
Spred	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

##### CONTROL LEVER

control lever position degree	: 301.0
tolerance degree	: + 4.0

#### RATED SPEED

rack travel mm	:	12.05
Rated speed rpm	:	1250
Tolerance 1/min	:	+ 8
rack travel mm	:	4.00
Rated speed rpm	:	1340
Tolerance 1/min	:	+ 15
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	1480

#### LOW IDLE

control lever position degree	:	258.0
tolerance degree	:	+ 4.0

#### Testing:

Rated speed rpm	:	400
rack travel mm	:	4.80
Tolerance mm	:	+ 0.10

Rated speed rpm	:	300
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CRT mm min.	:	> 7.60
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#### TORQUE CONTROL

Rated speed rpm	:	1000
rack travel mm	:	13.05
Tolerance mm	:	+ 0.05

Rated speed rpm	:	1200
rack travel mm	:	13.05
Tolerance mm	:	+ 0.10

Rated speed rpm	:	700
rack travel mm	:	13.05
Tolerance mm	:	+ 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm	:	500
Pressure hPa	:	1200
rack travel mm	:	13.05
Tolerance mm	:	+ 0.05

#### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	500
rack travel mm	:	7.80
Tolerance mm	:	+ 0.15
Rated speed rpm	:	500
Pressure hPa	:	140
rack travel mm	:	8.55
Tolerance mm	:	+ 0.15
Pressure hPa	:	500
rack travel mm	:	12.10
Tolerance mm	:	+ 0.25

#### START CUT-OUT

Rated speed rpm	:	< 280
Rated speed rpm	:	> 320
Check speed 1/min	:	< 260
Check speed 1/min	:	> 340

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	1200
Rated speed rpm	:	1200
Del. quantity cm <sup>3</sup> /1000 strokes	:	208.0
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 6.0

Aneroid pressure hPa	:	1200
Rated speed rpm	:	700
Del. quantity cm <sup>3</sup> /1000 strokes	:	218.0
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 6.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm <sup>3</sup> /1000 strokes	:	120.0
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.05  
Rated speed rpm : 1250  
Tolerance 1/min : + 8

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 206.0  
cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 19.0

---

#### LOW IDLE

Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 24.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 964

Injection pump  
Pump designation : PES6P120A320RS7317  
EP type number : 0 412 726 903

Governor  
Governor design. : RQV275...1000PA1001  
Governor no. : 0 421 813 931

Cust. part No. : CCEP 5111B 66-181

**Customer-spec. information**

Customer : RENAULT V.I.  
Motor : MIDR 062045 E/3  
Power KW : 249.0

**TEST BENCH REQUIREMENTS**

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.70  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 18.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

**Start of delivery mark**

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

**CRT ZERO POSITION**

Rack travel in mm : 13.90  
Tolerance mm : + 0.05

---

#### BASIC SETTING

Rated speed rpm : 600

Del. quantity  
cm<sup>3</sup>/1000 strokes : 269.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -8.10  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 34.0

cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 275

guide sleeve

travel mm : 1.29

Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1096

guide sleeve

travel mm : 8.56

Tolerance mm :  $\pm$  0.10

Rated speed rpm : 777

guide sleeve

travel mm : 6.11

Tolerance mm :  $\pm$  0.20

Rated speed rpm : 343

guide sleeve

travel mm : 2.33

Tolerance mm :  $\pm$  0.20

Rated speed rpm : 393

guide sleeve

travel mm : 2.99

Tolerance mm :  $\pm$  0.20

Rated speed rpm : 490

guide sleeve

travel mm : 3.81

Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1370

guide sleeve

travel mm : 11.50

Tolerance mm :  $\pm$  0.50

---

#### GUIDE SLEEVE POSITION

Rated speed rpm : 1165

Rack travel in mm : 12.90

Tolerance mm :  $\pm$  1.30

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600

Aneroid pressure

hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 269.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

#### CONTROL LEVER

control lever

position degree : 303.0

tolerance degree :  $\pm$  4.0

---

#### RATED SPEED

rack travel mm : -1.00

Rated speed rpm : 1080

Tolerance 1/min :  $\pm$  5

rack travel mm : -9.90

Rated speed rpm : 1220

Tolerance 1/min :  $\pm$  15

rack travel mm : -13.40

Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1300

#### LOW IDLE

control lever  
position degree : 248.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 275  
rack travel mm : -8.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200

CRT mm max. : < -6.60

Rated speed rpm : 340

#### TORQUE CONTROL

Rated speed rpm : 600

Rated speed rpm : 1000  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 600  
rack travel mm : -5.50

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -4.10  
Tolerance mm :  $\pm$  0.30

Rated speed rpm : 500

Pressure hPa : 200  
rack travel mm : -3.60  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 560  
rack travel mm : -0.75

Tolerance mm :  $\pm$  0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 225

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 245

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 248.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 109.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  5.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  8.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1080  
Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 19.0

---

LOW IDLE

Rated speed rpm : 275  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 34.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 30.10.96  
Test oil : ISO 4113

Combination No. : 0 402 748 812

Injection pump  
Pump designation : PES8P120A720LS7425  
EP type number : 0 412 728 814

Governor  
Governor design. : RQV350...1200PA1310K  
Governor no. : 0 421 815 541

Cust. part No. : CCEP 5164 66-136

**Customer-spec. information**

Customer : RENAULT V.I.  
Motor : MACK E9-750  
Power KW : 552.0

**TEST BENCH REQUIREMENTS**

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.75  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.00  
Tolerance mm : + 0.50

Firing order : 1- 2- 7- 8- 4  
: - 5- 6- 3

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

**Start of delivery mark**

\*NW after s.o.d. : -0.15  
Tolerance : + 0.50

Check  
tolerance °NW : + 0.75

Barrel no. : 1

**Beginning of delivery difference**

betw. rack trav.  
mm : 21.00  
and maximum rack  
travel : 10.00  
Difference ° CS : 4.25

**CRT ZERO POSITION**

Rack travel in mm : 13.30  
Tolerance mm :  $\pm$  0.05

#### BASIC SETTING

Rated speed rpm : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 305.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spred  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 325

Rack travel in mm : -6.30  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 53.0

cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.90  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1255  
guide sleeve  
travel mm : 9.50  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 833  
guide sleeve  
travel mm : 5.90  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 480  
guide sleeve  
travel mm : 3.27  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1570  
guide sleeve  
travel mm : 13.50  
Tolerance mm :  $\pm$  0.50

#### GUIDE SLEEVE POSITION

Rated speed rpm : 1408

Rack travel in mm : 12.30  
Tolerance mm :  $\pm$  1.30

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 305.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spred  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### CONTROL LEVER

control lever  
position degree : 117.0  
tolerance degree :  $\pm$  4.0

#### RATED SPEED

rack travel mm : -1.00  
Rated speed rpm : 1250  
Tolerance 1/min :  $\pm$  5

rack travel mm : -9.30  
Rated speed rpm : 1370  
Tolerance 1/min :  $\pm$  15

rack travel mm : -12.75  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1450

#### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 325  
rack travel mm : -6.30  
Tolerance mm : + 0.10

Rated speed rpm : 225

CRT mm max. : < -4.20

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1200

Rated speed rpm : 900  
rack travel mm : -0.65  
Tolerance mm : + 0.10

Rated speed rpm : 600  
rack travel mm : -1.60  
Tolerance mm : + 0.15

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1200  
Pressure hPa : 1200  
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -3.30  
Tolerance mm : + 0.20

Rated speed rpm : 1200

Pressure hPa : 640  
rack travel mm : -2.60  
Tolerance mm : + 0.20

Pressure hPa : 950  
rack travel mm : -0.75  
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 120  
Rated speed rpm : < 230

Check  
speed 1/min : > 100  
Check  
speed 1/min : < 250

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 293.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.5  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1250  
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 360.0  
cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 325

Del. quantity  
cm<sup>3</sup>/1000 strokes : 53.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spreed  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.10.96  
Test oil : ISO 4113

Combination No. : 0 402 848 300

Injection pump  
Pump designation : PE8P120A520LS8518  
EP type number : 0 412 828 201

Governor  
Governor design. : RQV300...1150PA1323K  
Governor no. : 0 421 815 963

Cust. part No. : 51.11103-7492

### Customer-spec. information

Customer : MAN  
Motor : D 2848 LE 403  
Power KW : 588.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 170  
Tolerance l/h : + 15.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery blocking

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 8

### BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.00  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 335.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 300

Rack travel in mm : 5.20  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 49.0

cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  8.0

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.61  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1206  
guide sleeve  
travel mm : 9.84  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 797  
guide sleeve  
travel mm : 6.36  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 460  
guide sleeve  
travel mm : 3.78  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1500  
guide sleeve  
travel mm : 13.50  
Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1323

Rack travel in mm : 13.00  
Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
Aneroid pressure  
hPa : 2000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 335.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever  
position degree : 118.0  
tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 13.00  
Rated speed rpm : 1195  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1320  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1475

##### LOW IDLE

control lever  
position degree : 72.0  
tolerance degree :  $\pm$  4.0

**Testing:**

Rated speed rpm : 300  
 rack travel mm : 5.20  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200

CRT mm min. : > 7.39

Rated speed rpm : 332

**TORQUE CONTROL**

Rated speed rpm : 1150  
 rack travel mm : 14.00  
 Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
 rack travel mm : 13.10  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 850  
 rack travel mm : 12.00  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 650  
 rack travel mm : 11.20  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
 rack travel mm : 6.30  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
 rack travel mm : 7.40  
 Tolerance mm :  $\pm$  0.10

**ANEROID/ALTITUDE COMPENSATOR TEST****SETTING**

Rated speed rpm : 1150  
 Pressure hPa : 2000  
 rack travel mm : 14.00  
 Tolerance mm :  $\pm$  0.05

**MEASUREMENT**

Pressure hPa : -  
 Rated speed rpm : 1150  
 rack travel mm : 7.80  
 Tolerance mm :  $\pm$  0.15

Rated speed rpm : 1150

Pressure hPa : 330  
 rack travel mm : 8.10  
 Tolerance mm :  $\pm$  0.05

Pressure hPa : 1100  
 rack travel mm : 12.20  
 Tolerance mm :  $\pm$  0.15

**START CUT-OUT**

Rated speed rpm : > 170  
 Rated speed rpm : < 230

Check speed 1/min : > 150  
 Check speed 1/min : < 240

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure hPa : 2000  
 Rated speed rpm : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 315.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  8.0

Aneroid pressure hPa : 2000  
 Rated speed rpm : 850  
 Del. quantity cm<sup>3</sup>/1000 strokes : 290.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  8.0

Aneroid pressure hPa : 2000  
 Rated speed rpm : 650  
 Del. quantity cm<sup>3</sup>/1000 strokes : 279.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  8.0

Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 0.1  
 cm<sup>3</sup>/1000 strokes :  $\pm$  0.1  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  0.1

Aneroid pressure hPa : -

Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 15.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 175.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

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#### BREAKAWAY

Rack travel in mm : 13.00  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 49.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 8.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.10.96  
Test oil : ISO 4113

Combination No. : 0 402 899 301

Injection pump  
Pump designation : PE10P120A520LS8523  
EP type number : 0 412 829 202

Governor  
Governor design. : RE30  
Governor no. : 0 421 890 040

Cust. part No. : 51.11103-7531

## Customer-spec. information

Customer : MAN  
Motor : D 2840 LE 403  
Power KW : 772.0

## TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 089

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.20  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 0.50

Firing order : 10- 9- 4- 1- 8  
: - 7- 6- 3- 5  
: - 2

Phasing : 0-45-72-117-144  
: -189-216-261-288  
: -333

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 10

---

**(B) POSITIONER TESTING**

Warm-up time: 3 minutes at  
 n=600 min-1, Uact = 2.5 V

**TESTING & SETTING RACK TRAVEL SENSOR POSITION**

Engine speed min-1: 0

Setting point  
 (P, R and H pump)

Uact V : 3.100  
 CRT mm : 13.00  
 Tolerance mm : +/- 0.05  
 Check tolerance mm : +/- 0.10

Check value  
 (P, R and H pump)

Uact V : 1.700  
 CRT mm : 6.15  
 Tolerance mm : +/- 0.25  
 Check tolerance mm : +/- 0.30

Setting point  
 (M pump)

Uact V : 3.100  
 CRT mm : 12.50  
 Tolerance mm : +/- 0.05  
 Check tolerance mm : +/- 0.10

Check value  
 (M pump)

Uact V : 1.700  
 CRT mm : 5.50  
 Tolerance mm : +/- 0.25  
 Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
 deenergised adjusting magnet  
 and control rod in  
 stop position.  
 CRT mm : 0.75  
 Tolerance mm : +/- 0.25  
 Check tolerance mm : +/- 0.35

**ENGINE-SPEED SENSOR**  
 (ALL P and R pumps not  
 H and M pumps)

Test with control rod  
 in stop position

Engine speed min-1: 60  
 Amplitude V : 1.4  
 Tolerance V : +/- 0.6  
 Check tolerance V : +/- 1.20

Engine speed min-1: 600  
 Difference  
 Amplitude to  
 Amplitude V : max.1.4

---

**(C) INJECTION PUMP WITH POSITIONER****TEST POINT V1**

Rated speed rpm : 1150  
 Uact V : 3.360  
 Del. quantity  
 cm3/1000 strokes : 332.0  
 cm3/1000 strokes : +/- 1.0  
 Check tolerance  
 cm3/1000S. : +/- 4.0  
 Spread  
 cm3/1000 strokes : 8.0  
 Check tolerance  
 cm3/1000S. : 12.0

**FUEL DELIVERY CHARACTERISTICS**

Rated speed rpm : 500  
 Uact V : 2.180  
 Del. quantity  
 cm3/1000 strokes : 177.0  
 cm3/1000 strokes : +/- 5.0  
 Check tolerance  
 cm3/1000S. : +/- 9.0  
 Spread  
 cm3/1000 strokes : 8.0  
 Check tolerance  
 cm3/1000S. : 12.0

Rated speed rpm : 500  
 Uact V : 1.940  
 Del. quantity  
 cm3/1000 strokes : 0.1  
 cm3/1000 strokes : +/- 0.1  
 Check tolerance  
 cm3/1000S. : +/- 0.1

Rated speed rpm : 500  
Uact V : 2.160  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 15.0

TEST POINT L1

Rated speed rpm : 300  
Uact V : 1.580  
Tolerance Volt : + - 0.060  
Check tolerance  
Volt : + - 0.080  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Spreed  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 25.10.96  
Test oil : ISO 4113

Combination No. : 0 403 446 217

Injection pump  
Pump designation : PES6MW100/720RS1144  
EP type number : 0 413 406 138

Governor  
Governor design. : RQV300...1300MW48-9  
Governor no. : 0 420 083 176

Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366A  
Power KW : 125.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 3.75  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.05  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 78.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 300

Rack travel in mm : 7.90

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1440

guide sleeve

travel mm : 9.50

Tolerance mm : + 0.20

Rated speed rpm : 300

guide sleeve

travel mm : 1.40

Tolerance mm : + 0.20

Rated speed rpm : 1350

guide sleeve

travel mm : 8.70

Tolerance mm : + 0.10

Rated speed rpm : 500

guide sleeve

travel mm : 3.00

Tolerance mm : + 0.30

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1350

Rack travel in mm : 16.50

Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 78.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance

cm<sup>3</sup>/1000S. : + 3.0

Spread

cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance

cm<sup>3</sup>/1000S. : 6.0

##### CONTROL LEVER

control lever

position degree : 100.0

tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.00

Rated speed rpm : 1345

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1440

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1550

##### LOW IDLE

control lever

position degree : 70.0

tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 300

rack travel mm : 7.90

Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 9.50

##### TORQUE CONTROL

Rated speed rpm : 1300

rack travel mm : 11.05

Tolerance mm : + 0.05

Rated speed rpm : 800

rack travel mm : 11.95

Tolerance mm : + 0.15  
Rated speed rpm : 585  
rack travel mm : 12.10  
Tolerance mm : + 0.10

Rated speed rpm : 1100  
rack travel mm : 11.10  
Tolerance mm : + 0.10

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 230

Check speed 1/min : > 80  
Check speed 1/min : < 250

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 800  
Del. quantity cm3/1000 strokes : 75.0  
cm3/1000 strokes : + 1.5  
Check tolerance cm3/1000S. : + 4.0  
Spread cm3/1000 strokes : 5.0  
Check tolerance cm3/1000S. : 7.0

Aneroid pressure hPa : -  
Rated speed rpm : 585  
Del. quantity cm3/1000 strokes : 69.0  
cm3/1000 strokes : + 1.5  
Check tolerance cm3/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.00  
Rated speed rpm : 1345  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 83.0  
cm3/1000 strokes : + 5.0  
Check tolerance cm3/1000S. : + 8.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm3/1000 strokes : 11.0  
cm3/1000 strokes : + 2.0  
Check tolerance cm3/1000S. : + 4.5  
Spread cm3/1000 strokes : 3.5  
Check tolerance cm3/1000S. : 5.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.11.96  
Test oil : ISO 4113

Combination No. : 9 400 083 422

Injection pump  
Pump designation : PES3A80D320/3RS1264  
EP type number : 9 400 083 053

Governor  
Governor design. : RSV350...1200A2C627R  
Governor no. : 9 420 083 288

Cust. part No. :

---

Customer-spec. information  
Customer : MWM  
Motor : D225-3

---

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 580 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

---

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

---

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 2- 3

Phasing : 0-120-240

Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.50

---

### BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 9.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 51.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000s. : + 2.0

Spread  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance cm<sup>3</sup>/1000s. : 4.0

Rated speed rpm : 350

Rack travel in mm : 6.00

Tolerance mm : + 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 9.0

cm<sup>3</sup>/1000 strokes : + 1.5

Check tolerance cm<sup>3</sup>/1000s. : + 3.5

Spred

cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance cm<sup>3</sup>/1000s. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : + 0.35

governor spring

pre-tension

click setting x : 4.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 51.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance cm<sup>3</sup>/1000s. : + 2.0

Spred

cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance cm<sup>3</sup>/1000s. : 4.0

##### CONTROL LEVER

control lever

position degree : 50.0

tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 8.40

Rated speed rpm : 1245

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1300

Tolerance 1/min : + 15

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1400

##### LOW IDLE

control lever

position degree : 20.0

tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350

rack travel mm : 5.50

##### Testing:

Rated speed rpm : 350

rack travel mm : 6.00

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 520

Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1200

rack travel mm : 9.45

Tolerance mm : + 0.05

Rated speed rpm : 500

rack travel mm : 9.50

Tolerance mm : + 0.10

Rated speed rpm : 400

rack travel mm : 10.90

Tolerance mm : + 0.30

---

#### BREAKAWAY

Rack travel in mm : 8.40  
Rated speed rpm : 1245  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm3/1000 strokes : 9.0  
cm3/1000 strokes : + 1.5  
Check tolerance  
cm3/1000S. : + 3.5  
Spread  
cm3/1000 strokes : 4.0  
Check tolerance  
cm3/1000S. : 6.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.11.96  
Test oil : ISO 4113

Combination No. : 9 400 083 426

Injection pump  
Pump designation : PES4A80D320/3RS1265  
EP type number : 9 400 083 055

Governor  
Governor design. : RSV350...1200A2C627R  
Governor no. : 9 420 083 288

Cust. part No. :

Customer-spec. information  
Customer : MWM  
Motor : D225-4

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.50

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 9.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 51.0  
cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0

Spread  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance cm<sup>3</sup>/1000S. : 4.0

Rated speed rpm : 350

Rack travel in mm : 6.00

Tolerance mm : + - 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 9.0

cm<sup>3</sup>/1000 strokes : + - 1.5

Check tolerance cm<sup>3</sup>/1000S. : + - 3.5

Spred

cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : + - 0.35

governor spring

pre-tension

click setting x : 4.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 51.0

cm<sup>3</sup>/1000 strokes : + - 0.5

Check tolerance cm<sup>3</sup>/1000S. : + - 2.0

Spred

cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance cm<sup>3</sup>/1000S. : 4.0

##### CONTROL LEVER

control lever

position degree : 101.0

tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 8.40

Rated speed rpm : 1245

Tolerance 1/min : + - 5

rack travel mm : 4.00

Rated speed rpm : 1300

Tolerance 1/min : + - 15

rack travel mm : 1.00

Tolerance mm : + - 0.70

Rated speed rpm : 1450

##### LOW IDLE

control lever

position degree : 74.0

tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350

rack travel mm : 5.50

##### Testing:

Rated speed rpm : 350

rack travel mm : 6.00

Tolerance mm : + - 0.10

rack travel mm : 2.00

Rated speed rpm : 500

Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1200

rack travel mm : 9.45

Tolerance mm : + - 0.05

Rated speed rpm : 500

rack travel mm : 9.50

Tolerance mm : + - 0.10

Rated speed rpm : 400

rack travel mm : 10.90

Tolerance mm : + - 0.30

---

### BREAKAWAY

Rack travel in mm : 8.40  
Rated speed rpm : 1245  
Tolerance 1/min : + - 5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00

---

### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm3/1000 strokes : 9.0  
cm3/1000 strokes : + - 1.5  
Check tolerance  
cm3/1000S. : + - 3.5  
Spreed  
cm3/1000 strokes : 4.0  
Check tolerance  
cm3/1000S. : 6.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.11.96  
Test oil : ISO 4113

Combination No. : 9 400 083 456

Injection pump  
Pump designation : PES6A100D320/3RS2691  
EP type number : 9 410 230 025

Governor  
Governor design. : RSV400...900A7C2209  
: -2R  
Governor no. : 9 420 083 237

Cust. part No. :

## Customer-spec. information

Customer : CUMMINS  
Motor : 6 C 8.3 L  
Power KW : 110.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.0

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 3.50

## BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 11.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 101.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 400

Rack travel in mm : 6.00  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5

cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

control lever  
position degree : 57.0  
tolerance degree : ± 4.0

control lever  
position degree : 107.0  
tolerance degree : ± 4.0

#### RATED SPEED

rack travel mm : 10.20  
Rated speed rpm : 948  
Tolerance 1/min : ± 3

rack travel mm : 4.00  
Rated speed rpm : 975  
Tolerance 1/min : ± 5

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1100

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : ± 0.35

governor spring  
pre-tension  
click setting x : 5.25

control lever  
position degree : 77.0  
tolerance degree : ± 4.0

control lever  
position degree : 27.0  
tolerance degree : ± 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.50

##### Testing:

Rated speed rpm : 400  
rack travel mm : 6.00  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 440  
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 101.5

cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

##### TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 11.25

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
rack travel mm : 11.30  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 400  
rack travel mm : 12.50  
Tolerance mm :  $\pm$  0.30

---

#### BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 948  
Tolerance 1/min :  $\pm$  3

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  8.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  11.0

---

#### LOW IDLE

Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.11.96  
Test oil : ISO 4113

Combination No. : 9 400 083 460

Injection pump  
Pump designation : PES6A100D320/3RS2827  
EP type number : 9 400 084 030

Governor  
Governor design. : RQV350...1200AB1267R  
Governor no. : 9 420 080 319

Cust. part No. :

Customer-spec. information  
Customer : CUMMINS  
Motor : 6 CTAA-8.3L  
Power KW : 179.1

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.75  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Beginning of delivery difference  
and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.00

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 4.80  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1250  
guide sleeve  
travel mm : 8.90  
Tolerance mm : + - 0.10

Rated speed rpm : 1000  
guide sleeve  
travel mm : 6.15  
Tolerance mm : + - 0.25

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.65  
Tolerance mm : + - 0.25

Rated speed rpm : 550  
guide sleeve  
travel mm : 3.25  
Tolerance mm : + - 0.25

Rated speed rpm : 1320  
guide sleeve  
travel mm : 9.85  
Tolerance mm : + - 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1220

Rack travel in mm : 16.50

Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 66.0  
tolerance degree : + - 4.0

control lever  
position degree : 122.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 10.40  
Rated speed rpm : 1245  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1320  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1450

##### LOW IDLE

control lever  
position degree : 69.0  
tolerance degree : + - 4.0

control lever  
position degree : 13.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 4.80  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 100  
 CRT mm min. :  $>$  8.50  
 Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 1200  
 rack travel mm : 11.45  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 750  
 rack travel mm : 12.05  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 1100  
 rack travel mm : 12.05  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 1150  
 rack travel mm : 11.75  
 Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
 Pressure hPa : 1000  
 rack travel mm : 12.05  
 Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 Rated speed rpm : 500  
 Pressure hPa : 590  
 rack travel mm : 1.70  
 Tolerance mm :  $\pm$  0.10  
 Pressure hPa : 370  
 rack travel mm : 0.45  
 Tolerance mm :  $\pm$  0.05

#### START CUT-OUT

Rated speed rpm :  $>$  100  
 Rated speed rpm :  $<$  270

Check speed 1/min :  $>$  80  
 Check speed 1/min :  $<$  290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000  
 Rated speed rpm : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 121.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure hPa : 1000  
 Rated speed rpm : 750  
 Del. quantity cm<sup>3</sup>/1000 strokes : 135.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 103.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### BREAKAWAY

Rack travel in mm : 10.40  
 Rated speed rpm : 1245  
 Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 173.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  8.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  11.0

---

LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.5  
Spreed  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 243

Injection pump  
Pump designation : PES4A80D320RS1282-1  
EP type number : 9 400 083 097

Governor  
Governor design. : RS350/1500A2C2073  
: -2R  
Governor no. : 9 420 083 269

Cust. part No. :

## Customer-spec. information

Customer : MWM  
Motor : D 229-4

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 2.70  
Tolerance mm : + - 0.05  
Check  
tolerance mm : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + - 0.50  
Check  
tolerance \*NW : + - 0.75

Beginning of delivery difference  
and maximum rack  
travel : 10.50  
Tolerance mm : + - 1.50  
Difference \* CS : 4.50

## BASIC SETTING

Rated speed rpm : 1500

Rack travel in mm : 9.25  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 58.5  
cm<sup>3</sup>/1000 strokes : + - 0.5

Check tolerance cm<sup>3</sup>/1000s. : + 2.0  
 Spread cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance cm<sup>3</sup>/1000s. : 4.0  
 Rated speed rpm : 350  
 Rack travel in mm : 6.10  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 9.0  
 cm<sup>3</sup>/1000 strokes : + 1.5  
 Check tolerance cm<sup>3</sup>/1000s. : + 3.5  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000s. : 6.0

**(B) SETTING OF INJECTION PUMP WITH GOVERNOR**

**GUIDE SLEEVE POSITION**  
 Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring pre-tension  
 click setting x : 5.50

**FULL LOAD DELIVERY AT FULL LOAD STOP**

Rated speed rpm : 1500  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 58.5  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance cm<sup>3</sup>/1000s. : + 2.0  
 Spread cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance cm<sup>3</sup>/1000s. : 4.0

**CONTROL LEVER**

control lever position degree : 117.0  
 tolerance degree : + 4.0

**RATED SPEED**

rack travel mm : 8.20  
 Rated speed rpm : 1585  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1640  
 Tolerance 1/min : + 15  
 rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1800

**LOW IDLE**

control lever position degree : 60.0  
 tolerance degree : + 4.0

**Testing:**

Rated speed rpm : 350  
 rack travel mm : 6.10  
 Tolerance mm : + 0.10  
 rack travel mm : 4.00  
 Rated speed rpm : 460  
 Tolerance 1/min : + 30  
 Rated speed rpm : 250  
 CRT mm min. : > 6.80  
 Rated speed rpm : 550  
 CRT mm max. : < 3.20

**TORQUE CONTROL**

Rated speed rpm : 1500  
 rack travel mm : 9.25  
 Tolerance mm : + 0.05  
 Rated speed rpm : 500  
 rack travel mm : 10.65  
 Tolerance mm : + 0.05  
 Rated speed rpm : 900  
 rack travel mm : 10.30  
 Tolerance mm : + 0.10

Rated speed rpm : 1200  
rack travel mm : 9.65  
Tolerance mm :  $\pm$  0.15

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

##### Aneroid pressure

hPa : -  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 64.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

#### BREAKAWAY

Rack travel in mm : 8.20  
Rated speed rpm : 1585  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00

---

#### LOW IDLE

Rated speed rpm : 350

Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 255

Injection pump  
Pump designation : PES5A80D410RS2526  
EP type number : 9 400 093 007

Governor  
Governor design. : RS325/1400A0C2212L  
Governor no. : 9 420 083 295

Cust. part No. :

Customer-spec. information  
Customer : DEUTZ-ARGENTINA  
Motor : F5L913

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 1.95  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288

### BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 66.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0

Spread  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 8.50

Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes : + 1.5  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.5  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
 Tolerance mm : + 0.35

governor spring  
 pre-tension  
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 66.0  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance cm<sup>3</sup>/1000S. : + 2.0  
 Spread cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance cm<sup>3</sup>/1000S. : 4.0

CONTROL LEVER

control lever  
 position degree : 113.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.50  
 Rated speed rpm : 1445  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1515

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Tolerance 1/min : + 15  
 rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.50  
 Tolerance mm : + 0.10

rack travel mm : 6.00  
 Rated speed rpm : 420  
 Tolerance 1/min : + 30

Rated speed rpm : 280

CRT mm min. : > 8.80

Rated speed rpm : 550

CRT mm max. : < 4.40

TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 11.55  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 rack travel mm : 12.25  
 Tolerance mm : + 0.05

Rated speed rpm : 1100  
 rack travel mm : 11.95  
 Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 56.5  
 cm<sup>3</sup>/1000 strokes : + 1.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spreed  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spreed  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

#### BREAKAWAY

Rack travel in mm : 10.50  
Rated speed rpm : 1445  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00

---

#### LOW IDLE

Rated speed rpm : 325  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spreed  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil :

Combination No. : 9 400 085 267

Injection pump  
Pump designation : PES6A95D410RS2751  
EP type number : 9 400 084 013

Governor  
Governor design. : RSV650...1250A8C2231  
: -1L  
Governor no. : 9 420 083 230

Cust. part No. :

## Customer-spec. information

Customer : FORD  
Motor : 6,6 L TC  
Power KW : 112.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 017

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.20  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 6.50

## BASIC SETTING

Rated speed rpm : 1220

Rack travel in mm : 11.95  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 92.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spred  
cm3/1000 strokes : 3.5

Check tolerance  
cm3/1000S. : 8.0

Rated speed rpm : 650

Rack travel in mm : 6.80  
Tolerance mm : + - 0.10

Del. quantity  
cm3/1000 strokes : 9.0

cm3/1000 strokes : + - 2.0

Check tolerance  
cm3/1000S. : + - 4.5

Spred  
cm3/1000 strokes : 5.5

Check tolerance  
cm3/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + - 0.35

governor spring  
pre-tension  
click setting x : 3.25

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1220

Aneroid pressure  
hPa : -

Del. quantity  
cm3/1000 strokes : 92.0

cm3/1000 strokes : + - 1.0

Check tolerance  
cm3/1000S. : + - 3.0

Spred  
cm3/1000 strokes : 3.5

Check tolerance  
cm3/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 101.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 10.90  
Rated speed rpm : 1268  
Tolerance 1/min : + - 3

rack travel mm : 4.00  
Rated speed rpm : 1303  
Tolerance 1/min : + - 3

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1420

##### LOW IDLE

control lever  
position degree : 76.0  
tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 6.30

##### Testing:

Rated speed rpm : 650  
rack travel mm : 6.80  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 760  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1220  
rack travel mm : 11.95  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 11.95  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 79.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1268  
Tolerance 1/min : + - 3

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
cm<sup>3</sup>/1000 strokes : + - 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 11.0

---

#### LOW IDLE

Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 270

Injection pump  
Pump designation : PES6A90D320RS2718  
EP type number : 9 400 084 003

Governor  
Governor design. : RSV350...1400A2C2215  
: -1R  
Governor no. : 9 420 083 231

Cust. part No. :

## Customer-spec. information

Customer : MWM  
Motor : D229/6

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.75  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Beginning of delivery difference  
and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 3.50

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 8.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000s : + 2.5

Spred  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 5.50  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + - 0.35

governor spring  
pre-tension  
click setting x : 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400

Aneroid pressure

hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.0  
cm<sup>3</sup>/1000 strokes : + - 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + - 2.5

Spred  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever  
position degree : 59.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 7.50  
Rated speed rpm : 1445  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1490  
Tolerance 1/min : + - 15

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1650

##### LOW IDLE

control lever  
position degree : 25.0  
tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 5.00

##### Testing:

Rated speed rpm : 350  
rack travel mm : 5.50  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 590  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1400  
rack travel mm : 8.55  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 9.15  
Tolerance mm : + - 0.05

Rated speed rpm : 900  
rack travel mm : 8.95

Tolerance mm :  $\pm$  0.15

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 57.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Spreed  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

##### Aneroid pressure

hPa : -  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Spreed  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 7.50  
Rated speed rpm : 1445  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 286

Injection pump  
Pump designation : PES6A90D320RS2701  
EP type number : 9 400 083 094

Governor  
Governor design. : RSV350...1150A2C2097  
: -2R  
Governor no. : 9 420 083 224

Cust. part No. :

## Customer-spec. information

Customer : MWM  
Motor : D 229-6  
Power KW : 81.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.70  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.50

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 9.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spred  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 6.00  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.5  
cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + 0.35

governor spring  
pre-tension  
click setting x : 4.25

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.5  
cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spred  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever  
position degree : 46.0  
tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 8.20  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1245  
Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1400

##### LOW IDLE

control lever  
position degree : 20.0  
tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 5.50

##### Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 600  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 9.25  
Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 9.85  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 9.55

Tolerance mm :  $\pm$  0.15

Check tolerance cm<sup>3</sup>/1000s. :  $\pm$  4.0  
Spreed cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance cm<sup>3</sup>/1000s. : 7.0

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 54.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  3.5  
Spreed  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

---

End of test specification sheet

##### Aneroid pressure

hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  3.5  
Spreed  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 8.20  
Rated speed rpm : 1195  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 301

Injection pump  
Pump designation : PES6A85D410RS2415  
EP type number : 0 410 886 907

Governor  
Governor design. : RQV350...1325AB1234  
: -1L  
Governor no. : 9 420 080 259

Cust. part No. :

## Customer-spec. information

Customer : DEUTZ-ARGENTINA  
Motor : BF 6L 913  
Power KW : 116.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 32.0  
Tolerance bar : + 1.0

Prestroke mm : 1.95  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1325

Rack travel in mm : 11.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 77.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 8.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1400  
guide sleeve  
travel mm : 8.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 900  
guide sleeve  
travel mm : 4.95  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 300  
guide sleeve  
travel mm : 0.75  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 600  
guide sleeve  
travel mm : 2.85  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1200  
guide sleeve  
travel mm : 6.95  
Tolerance mm :  $\pm$  0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1350

Rack travel in mm : 16.50  
Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1325

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 77.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  0.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  2.5  
Spread  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever  
position degree : 61.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 116.0  
tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 10.10  
Rated speed rpm : 1370  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1470  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1600

##### LOW IDLE

control lever  
position degree : 70.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 15.0  
tolerance degree :  $\pm$  4.0

##### Testing:

Rated speed rpm : 350  
rack travel mm : 8.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 9.00

Rated speed rpm : 450

#### TORQUE CONTROL

Rated speed rpm : 1325  
rack travel mm : 11.15  
Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 12.35  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 12.25  
Tolerance mm : + 0.15

Rated speed rpm : 1100  
rack travel mm : 11.60  
Tolerance mm : + 0.10

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 300

Check speed 1/min : > 80  
Check speed 1/min : < 320

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 75.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 79.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### Aneroid pressure

hPa : -

Rated speed rpm : 1100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 77.5

cm<sup>3</sup>/1000 strokes : + 1.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

Spread  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1370  
Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 311

Injection pump  
Pump designation : PES6A90D320RS2718  
EP type number : 9 400 084 003

Governor  
Governor design. : RSV350...1250A0C1108  
: -2R  
Governor no. : 9 420 083 272

Cust. part No. :

### Customer-spec. information

Customer : MWM  
Motor : TD 229 EC-06  
Power KW : 121.5

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.75  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 3.50

### BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000s. : + 2.5

Spred  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 5.20  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + 0.35

governor spring  
pre-tension  
click setting x : 4.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.0  
cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spred  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever  
position degree : 109.0  
tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 9.80  
Rated speed rpm : 1295  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1375  
Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1450

##### LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 4.70

##### Testing:

Rated speed rpm : 350  
rack travel mm : 5.20  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 425  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 10.85  
Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 10.90  
Tolerance mm : + 0.10

Rated speed rpm : 400  
rack travel mm : 12.30

Tolerance mm :  $\pm$  0.30

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1295  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 350

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1300AB1066  
: -12L  
Governor no. : 9 420 080 331

Cust. part No. :

## Customer-spec. information

Customer : MBB  
Motor : OM 366 LA  
Power KW : 154.5

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. :  $\pm$  4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm :  $\pm$  0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 99.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
 cm<sup>3</sup>/1000s. :  $\pm$  3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 8.0

CONTROL LEVER

control lever  
 position degree : 60.0  
 tolerance degree :  $\pm$  4.0  
 control lever  
 position degree : 110.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 10.10  
 Rated speed rpm : 1365  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1505  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 18.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 8.00  
 Rated speed rpm : 485

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
  
Rated speed rpm : 500  
  
Pressure hPa : 270  
rack travel mm : 0.55  
Tolerance mm :  $\pm$  0.15  
  
Pressure hPa : 400  
rack travel mm : 1.75  
Tolerance mm :  $\pm$  0.05

##### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220  
  
Check speed 1/min :  $>$  80  
Check speed 1/min :  $<$  240

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 87.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 45.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1365  
Tolerance 1/min :  $\pm$  5

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.70  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 84.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 353

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1300AB1066  
: -8L  
Governor no. : 9 420 080 279

Cust. part No. :

## Customer-spec. information

Customer : MBB  
Motor : OM 366 LA  
Power KW : 155.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. :  $\pm$  4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm :  $\pm$  0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 99.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
 cm<sup>3</sup>/1000s. :  $\pm$  3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 8.0

CONTROL LEVER

control lever  
 position degree : 60.0  
 tolerance degree :  $\pm$  4.0  
 control lever  
 position degree : 108.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 10.10  
 Rated speed rpm : 1365  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1500  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 19.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100  
 CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 1300

rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
  
Rated speed rpm : 500  
  
Pressure hPa : 300  
rack travel mm : 0.40  
Tolerance mm :  $\pm$  0.10  
  
Pressure hPa : 450  
rack travel mm : 1.05  
Tolerance mm :  $\pm$  0.05

##### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  240

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 87.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1365  
Tolerance 1/min :  $\pm$  5

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.70  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 84.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 372

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1300AB1283L  
Governor no. : 9 420 080 367

Cust. part No. :

## Customer-spec. information

Customer : MBB  
Motor : OM 366 LA  
Power KW : 155.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 106.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. :  $\pm$  4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm :  $\pm$  0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 106.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  0.5

Check tolerance  
 cm<sup>3</sup>/1000s. :  $\pm$  2.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 8.0

CONTROL LEVER

control lever  
 position degree : 60.0  
 tolerance degree :  $\pm$  4.0  
 control lever  
 position degree : 109.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 10.60  
 Rated speed rpm : 1360  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1505  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree :  $\pm$  4.0  
 control lever  
 position degree : 19.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 8.00  
 Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.65  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 11.65  
Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.65  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 340  
rack travel mm : 0.40  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 560  
rack travel mm : 1.35  
Tolerance mm :  $\pm$  0.05

##### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220

Check speed 1/min :  $>$  80  
Check speed 1/min :  $<$  240

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 95.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 61.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### BREAKAWAY

Rack travel in mm : 10.60  
Rated speed rpm : 1360  
Tolerance 1/min :  $\pm$  5

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 377

Injection pump  
Pump designation : PES6A95D410RS2857  
EP type number : 9 400 084 036

Governor  
Governor design. : RQV300...1250AB1284L  
Governor no. : 9 420 080 372

Cust. part No. :

## Customer-spec. information

Customer : DEUTZ-ARGENTINA  
Motor : BF 6 L 913C  
Power KW : 140.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.80  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 98.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 5.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1250  
 guide sleeve  
 travel mm : 7.70  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 900  
 guide sleeve  
 travel mm : 5.35  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.85  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 3.55  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1400  
 guide sleeve  
 travel mm : 9.05  
 Tolerance mm :  $\pm$  0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1350  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 98.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 120.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 10.20  
 Rated speed rpm : 1295  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
 Rated speed rpm : 1400  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1550

LOW IDLE

control lever  
 position degree : 66.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 5.00  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 7.00

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.25

Tolerance mm : + 0.05  
Rated speed rpm : 800  
rack travel mm : 11.25  
Tolerance mm : + 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.25  
Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Rated speed rpm : 500  
Pressure hPa : 670  
rack travel mm : 1.60  
Tolerance mm : + 0.10  
Pressure hPa : 550  
rack travel mm : 0.45  
Tolerance mm : + 0.05

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220  
Check speed 1/min : > 80  
Check speed 1/min : < 240

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900  
Rated speed rpm : 800  
Del. quantity cm3/1000 strokes : 104.0  
cm3/1000 strokes : + 2.0  
Check tolerance cm3/1000S. : + 4.0  
Spreed cm3/1000 strokes : 5.0  
Check tolerance cm3/1000S. : 8.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 83.5  
cm3/1000 strokes : + 1.0  
Check tolerance cm3/1000S. : + 3.0  
Spreed cm3/1000 strokes : 3.5  
Check tolerance cm3/1000S. : 8.0

##### BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 1295  
Tolerance 1/min : + 5

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 16.10  
Tolerance mm : + 0.10  
Del. quantity cm3/1000 strokes : 160.0  
cm3/1000 strokes : + 7.5  
Check tolerance cm3/1000S. : + 10.0

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm3/1000 strokes : 17.0  
cm3/1000 strokes : + 2.0  
Check tolerance cm3/1000S. : + 4.5  
Spreed cm3/1000 strokes : 5.5  
Check tolerance cm3/1000S. : 9.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 379

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1300AB1277L  
Governor no. : 9 420 080 355

Cust. part No. :

## Customer-spec. information

Customer : MBB  
Motor : OM 366 A  
Power KW : 125.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 91.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm :  $\pm$  0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 91.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 108.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 9.50  
 Rated speed rpm : 1350  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1475  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 8.00  
 Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 1300  
 rack travel mm : 10.55  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 800  
 rack travel mm : 11.25  
 Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
 rack travel mm : 11.00  
 Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
 Pressure hPa : 800  
 rack travel mm : 11.45  
 Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 500  
 rack travel mm : 1.20  
 Tolerance mm : + - 0.10

Pressure hPa : 310  
 rack travel mm : 0.45  
 Tolerance mm : + - 0.05

---

##### START CUT-OUT

Rated speed rpm : > 100  
 Rated speed rpm : < 220

Check speed 1/min : > 80  
 Check speed 1/min : < 240

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 800  
 Rated speed rpm : 800  
 Del. quantity  
 cm3/1000 strokes : 89.5  
 cm3/1000 strokes : + - 2.0  
 Check tolerance  
 cm3/1000S. : + - 4.0  
 Spread  
 cm3/1000 strokes : 5.0  
 Check tolerance  
 cm3/1000S. : 8.0

Aneroid pressure  
 hPa : 800  
 Rated speed rpm : 1000  
 Del. quantity  
 cm3/1000 strokes : 91.5  
 cm3/1000 strokes : + - 2.0  
 Check tolerance  
 cm3/1000S. : + - 4.0  
 Spread  
 cm3/1000 strokes : 5.0  
 Check tolerance  
 cm3/1000S. : 8.0

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm3/1000 strokes : 62.0  
 cm3/1000 strokes : + - 1.0  
 Check tolerance  
 cm3/1000S. : + - 3.0  
 Spread  
 cm3/1000 strokes : 3.5  
 Check tolerance  
 cm3/1000S. : 8.0

---

##### BREAKAWAY

Rack travel in mm : 9.50  
 Rated speed rpm : 1350  
 Tolerance 1/min : + - 5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 13.30  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm3/1000 strokes : 82.5  
 cm3/1000 strokes : + - 7.5  
 Check tolerance  
 cm3/1000S. : + - 10.0

---

##### LOW IDLE

Rated speed rpm : 300  
 Del. quantity  
 cm3/1000 strokes : 11.0  
 cm3/1000 strokes : + - 2.0  
 Check tolerance  
 cm3/1000S. : + - 4.5  
 Spread  
 cm3/1000 strokes : 5.5

Check tolerance : 9.0  
cm<sup>3</sup>/1000s.

### End of test specification sheet

K06

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 390

Injection pump  
Pump designation : PES6A95D410RS2886  
EP type number : 9 400 084 039

Governor  
Governer design. : RQV300...1300AB1310L  
Governer no. : 9 420 080 388

Cust. part No. : 0260746902

## Customer-spec. information

Customer : MBB  
Motor : OM 366LA/EURO I  
Power KW : 150.0

## TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 95.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 8.10  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.05  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1500  
 guide sleeve travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 500  
 guide sleeve travel mm : 2.55  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 750  
 guide sleeve travel mm : 4.20  
 Tolerance mm :  $\pm$  0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure hPa : 900  
 Del. quantity cm<sup>3</sup>/1000 strokes : 95.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever position degree : 62.0  
 tolerance degree :  $\pm$  4.0  
 control lever position degree : 110.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 10.80  
 Rated speed rpm : 1385  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1530  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever position degree : 70.0  
 tolerance degree :  $\pm$  4.0

control lever position degree : 21.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 8.10  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 9.70  
 Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.85  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1125  
rack travel mm : 11.85  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 280  
rack travel mm : 0.60  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 430  
rack travel mm : 1.55  
Tolerance mm :  $\pm$  0.05

---

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 250

Check speed 1/min : > 80  
Check speed 1/min : < 260

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900

Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 88.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure hPa : 900  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 90.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 48.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spreed cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

---

##### BREAKAWAY

Rack travel in mm : 10.80  
Rated speed rpm : 1385  
Tolerance 1/min :  $\pm$  5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.90  
Tolerance mm :  $\pm$  0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 93.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 391

Injection pump  
Pump designation : PES6A95D410RS2886  
EP type number : 9 400 084 039

Governor  
Governor design. : RQV300...1300AB1310L  
Governor no. : 9 420 080 388

Cust. part No. : 0260745802

### Customer-spec. information

Customer : MBB  
Motor : OM 366LA/EURO I  
Power KW : 150.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 95.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 8.10  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.05  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1500  
 guide sleeve travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
 guide sleeve travel mm : 2.55  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 750  
 guide sleeve travel mm : 4.20  
 Tolerance mm :  $\pm$  0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure hPa : 900  
 Del. quantity cm<sup>3</sup>/1000 strokes : 95.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever position degree : 62.0  
 tolerance degree :  $\pm$  4.0

control lever position degree : 110.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 10.80  
 Rated speed rpm : 1385  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
 Rated speed rpm : 1530  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever position degree : 70.0  
 tolerance degree :  $\pm$  4.0

control lever position degree : 21.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 8.10  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm/min. : > 9.70

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.85  
Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 12.25  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 12.25  
Tolerance mm : + - 0.05

Rated speed rpm : 1125  
rack travel mm : 11.85  
Tolerance mm : + - 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 12.25  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 280  
rack travel mm : 0.60  
Tolerance mm : + - 0.10

Pressure hPa : 430  
rack travel mm : 1.55  
Tolerance mm : + - 0.05

---

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 250

Check speed 1/min : > 80  
Check speed 1/min : < 260

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900

Rated speed rpm : 700  
Del. quantity cm3/1000 strokes : 88.5  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.0  
Spread cm3/1000 strokes : 5.0  
Check tolerance cm3/1000S. : 8.0

Aneroid pressure hPa : 900  
Rated speed rpm : 800  
Del. quantity cm3/1000 strokes : 90.0  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.0  
Spread cm3/1000 strokes : 5.0  
Check tolerance cm3/1000S. : 8.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 48.0  
cm3/1000 strokes : + - 1.0  
Check tolerance cm3/1000S. : + - 3.0  
Spread cm3/1000 strokes : 3.5  
Check tolerance cm3/1000S. : 8.0

---

##### BREAKAWAY

Rack travel in mm : 10.80  
Rated speed rpm : 1385  
Tolerance 1/min : + - 5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.90  
Tolerance mm : + - 0.10  
Del. quantity cm3/1000 strokes : 93.0  
cm3/1000 strokes : + - 7.5  
Check tolerance cm3/1000S. : + - 10.0

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 13.0  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.5  
Spreed  
cm3/1000 strokes : 5.5  
Check tolerance  
cm3/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 393

Injection pump  
Pump designation : PES4A95D410RS2887  
EP type number : 9 400 084 040

Governor  
Governor design. : RQV300...1300AB1311L  
Governor no. : 9 420 080 390

Cust. part No. : 0260746802

## Customer-spec. information

Customer : MBB  
Motor : OM 364 LA/EURO I  
Power KW : 100.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 8.30  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : + 0.05  
  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm : + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 99.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread

cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 62.0  
 tolerance degree : + 4.0  
  
 control lever  
 position degree : 111.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.40  
 Rated speed rpm : 1345  
 Tolerance 1/min : + 5  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1515  
 Tolerance 1/min : + 15  
  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1640

LOW IDLE

control lever  
 position degree : 73.0  
 tolerance degree : + 4.0  
  
 control lever  
 position degree : 22.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 8.30  
 Tolerance mm : + 0.10

Rated speed rpm : 100  
 CRT mm min. : > 10.20  
 Rated speed rpm : 415

TORQUE CONTROL

Rated speed rpm : 1300  
 rack travel mm : 12.45

Tolerance mm : + 0.05  
 Rated speed rpm : 800  
 rack travel mm : 12.85  
 Tolerance mm : + 0.05  
 Rated speed rpm : 1050  
 rack travel mm : 12.45  
 Tolerance mm : + 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
 Pressure hPa : 700  
 rack travel mm : 12.45  
 Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 Rated speed rpm : 500  
 Pressure hPa : 200  
 rack travel mm : 0.85  
 Tolerance mm : + 0.05  
 Pressure hPa : 400  
 rack travel mm : 2.10  
 Tolerance mm : + 0.10

---

##### START CUT-OUT

Rated speed rpm : > 100  
 Rated speed rpm : < 250  
 Check speed 1/min : > 80  
 Check speed 1/min : < 260

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 700  
 Rated speed rpm : 800  
 Del. quantity cm<sup>3</sup>/1000 strokes : 95.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread

cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0  
 Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 45.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

---

##### BREAKAWAY

Rack travel in mm : 11.40  
 Rated speed rpm : 1345  
 Tolerance 1/min : + 5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 13.70  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 75.0  
 cm<sup>3</sup>/1000 strokes : + 7.5  
 Check tolerance cm<sup>3</sup>/1000S. : + 10.0

---

##### LOW IDLE

Rated speed rpm : 300  
 Del. quantity cm<sup>3</sup>/1000 strokes : 12.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

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## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 395

Injection pump  
Pump designation : PES6A95D410RS2886  
EP type number : 9 400 084 039

Governor  
Governor design. : RQV300...1300AB1312L  
Governor no. : 9 420 080 391

Cust. part No. : 0260749702

## Customer-spec. information

Customer : MBB  
Motor : OM 366LA/EURO I  
Power KW : 170.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 109.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 7.50  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 16.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm :  $\pm$  0.10

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 109.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

---

CONTROL LEVER

control lever  
 position degree : 60.0  
 tolerance degree :  $\pm$  4.0  
 control lever  
 position degree : 110.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 11.20  
 Rated speed rpm : 1350  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1515  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

---

LOW IDLE

control lever  
 position degree : 69.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 20.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.50  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 8.80  
 Rated speed rpm : 375

---

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 950  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1240  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 660  
rack travel mm : 2.40  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 410  
rack travel mm : 1.35  
Tolerance mm :  $\pm$  0.05

---

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200

Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 111.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure hPa : 1200  
Rated speed rpm : 950  
Del. quantity cm<sup>3</sup>/1000 strokes : 111.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 54.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

---

##### BREAKAWAY

Rack travel in mm : 11.20  
Rated speed rpm : 1350  
Tolerance 1/min :  $\pm$  5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 108.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 396

Injection pump  
Pump designation : PES6A95D410RS2886  
EP type number : 9 400 084 039

Governor  
Governor design. : RQV300...1300AB1312L  
Governor no. : 9 420 080 391

Cust. part No. : 0260749602

### Customer-spec. information

Customer : MBB  
Motor : OM 366LA/EURO I  
Power KW : 170.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x Length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 109.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.50  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.05  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1500  
guide sleeve  
travel mm : 8.55  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
guide sleeve  
travel mm : 2.55  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 750  
guide sleeve  
travel mm : 4.20  
Tolerance mm :  $\pm$  0.10

---

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50  
Tolerance mm :  $\pm$  1.30

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 109.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spred  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

##### CONTROL LEVER

control lever  
position degree : 60.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 110.0  
tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 11.20  
Rated speed rpm : 1350  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1515  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1650

---

##### LOW IDLE

control lever  
position degree : 69.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 20.0  
tolerance degree :  $\pm$  4.0

##### Testing:

Rated speed rpm : 300  
rack travel mm : 7.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 8.80

Rated speed rpm : 375

---

##### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 950  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1240  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 660  
rack travel mm : 2.40  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 410  
rack travel mm : 1.35  
Tolerance mm :  $\pm$  0.05

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200

Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 111.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure hPa : 1200  
Rated speed rpm : 950  
Del. quantity cm<sup>3</sup>/1000 strokes : 111.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 54.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spreed cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

##### BREAKAWAY

Rack travel in mm : 11.20  
Rated speed rpm : 1350  
Tolerance 1/min :  $\pm$  5

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 108.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 16.5  
cm3/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm3/1000S. :  $\pm$  4.5  
Spreed  
cm3/1000 strokes : 5.5  
Check tolerance  
cm3/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.11.96  
Test oil : ISO 4113

Combination No. : 9 400 087 477

Injection pump  
Pump designation : PES6P120A720RS3256  
: -2  
EP type number : 9 400 087 080

Governor  
Governor design. : RQV350...1300PA1098  
Governor no. : 9 420 080 353

Cust. part No. : 0240747202

## Customer-spec. information

Customer : MBB  
Motor : OM 366 LA  
Power KW : 125.1

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.80  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 141.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 7.65  
Tolerance mm :  $\pm$  0.15  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350  
guide sleeve  
travel mm : 8.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1100  
guide sleeve  
travel mm : 6.45  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.25  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 650  
guide sleeve  
travel mm : 4.15  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1460  
guide sleeve  
travel mm : 9.55  
Tolerance mm :  $\pm$  0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1360

Rack travel in mm : 16.50  
Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 141.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 112.0  
tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 9.70  
Rated speed rpm : 1345  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1440  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1550

##### LOW IDLE

control lever  
position degree : 80.0  
tolerance degree :  $\pm$  4.0

##### Testing:

Rated speed rpm : 350  
rack travel mm : 7.65  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 250

CRT mm min. : > 9.50

Rated speed rpm : 375

##### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 10.80

Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 800  
 rack travel mm : 10.80  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 1000  
 rack travel mm : 5.10  
 Tolerance mm :  $\pm$  0.30

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
 Pressure hPa : 1200  
 rack travel mm : 10.80  
 Tolerance mm :  $\pm$  0.10

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 Rated speed rpm : 500

Pressure hPa : 420  
 rack travel mm : 0.70  
 Tolerance mm :  $\pm$  0.10

Pressure hPa : 350  
 rack travel mm : 0.40  
 Tolerance mm :  $\pm$  0.10

---

##### START CUT-OUT

Rated speed rpm :  $>$  100  
 Rated speed rpm :  $<$  270

Check speed 1/min :  $>$  80  
 Check speed 1/min :  $<$  290

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
 Rated speed rpm : 800  
 Del. quantity cm<sup>3</sup>/1000 strokes : 119.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  5.0  
 Spread

cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Aneroid pressure hPa : -  
 Rated speed rpm : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 18.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : 3.0

Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 70.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

#### BREAKAWAY

Rack travel in mm : 9.70  
 Rated speed rpm : 1345  
 Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 Del. quantity cm<sup>3</sup>/1000 strokes : 100.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

#### LOW IDLE

Rated speed rpm : 350  
 Del. quantity cm<sup>3</sup>/1000 strokes : 17.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 295

Injection pump  
Pump designation : PES4A90D410RS2666  
EP type number : 0 410 894 029

Governor  
Governor design. : RQV300...1400AB1065  
: -5L  
Governor no. : 0 420 212 169

Cust. part No. : 016 074 87 02

## Customer-spec. information

Customer : MBB  
Motor : OM364  
Power KW : 66.0

## TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.30  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.95  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 300

Rack travel in mm : 8.70  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm3/1000 strokes : 10.0  
 cm3/1000 strokes : + 2.0  
 Check tolerance  
 cm3/1000S. : + 4.0  
 Spread  
 cm3/1000 strokes : 4.5  
 Check tolerance  
 cm3/1000S. : 7.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : + 0.05  
  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm : + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm3/1000 strokes : 63.5  
 cm3/1000 strokes : + 0.5  
 Check tolerance  
 cm3/1000S. : + 2.5  
 Spread

cm3/1000 strokes : 3.0  
 Check tolerance  
 cm3/1000S. : 7.0

CONTROL LEVER

control lever  
 position degree : 62.0  
 tolerance degree : + 4.0  
  
 control lever  
 position degree : 111.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.90  
 Rated speed rpm : 1455  
 Tolerance 1/min : + 5  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1575  
 Tolerance 1/min : + 15  
  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1700

LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : + 4.0  
  
 control lever  
 position degree : 23.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 8.70  
 Tolerance mm : + 0.10

Rated speed rpm : 100  
 CRT mm min. : > 10.00  
 Rated speed rpm : 610

TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 10.95

Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 12.25  
Tolerance mm : + 0.05

Rated speed rpm : 1150  
rack travel mm : 11.70  
Tolerance mm : + 0.10

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.5  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1150  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 66.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 9.90  
Rated speed rpm : 1455  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.20  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
cm<sup>3</sup>/1000 strokes : + 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 10.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 307

Injection pump  
Pump designation : PES4A95D410RS2774  
EP type number : 9 400 084 019

Governor  
Governor design. : RQV300...1300AB1228  
: -1L  
Governor no. : 9 420 080 268

Cust. part No. : 018 074 50 02

## Customer-spec. information

Customer : MBB  
Motor : OM 364 A  
Power KW : 85.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 91.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.00  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 10.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : + 0.05  
  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm : + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 91.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread

cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 59.0  
 tolerance degree : + 4.0  
  
 control lever  
 position degree : 108.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.60  
 Rated speed rpm : 1365  
 Tolerance 1/min : + 5  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1490  
 Tolerance 1/min : + 15  
  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1640

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : + 4.0  
  
 control lever  
 position degree : 19.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 485

TORQUE CONTROL

Rated speed rpm : 1300  
 rack travel mm : 10.65

Tolerance mm : + 0.05  
 Rated speed rpm : 800  
 rack travel mm : 11.05  
 Tolerance mm : + 0.05  
 Rated speed rpm : 1000  
 rack travel mm : 10.90  
 Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
 Pressure hPa : 700  
 rack travel mm : 11.05  
 Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 Rated speed rpm : 500  
 Pressure hPa : 280  
 rack travel mm : 0.45  
 Tolerance mm : + 0.05  
 Pressure hPa : 410  
 rack travel mm : 1.40  
 Tolerance mm : + 0.10

---

##### START CUT-OUT

Rated speed rpm : > 100  
 Rated speed rpm : < 220  
 Check speed 1/min : > 80  
 Check speed 1/min : < 240

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 700  
 Rated speed rpm : 800  
 Del. quantity cm<sup>3</sup>/1000 strokes : 86.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread

cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0  
 Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 53.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

---

##### BREAKAWAY

Rack travel in mm : 9.60  
 Rated speed rpm : 1365  
 Tolerance 1/min : + 5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 13.00  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 84.0  
 cm<sup>3</sup>/1000 strokes : + 7.5  
 Check tolerance cm<sup>3</sup>/1000S. : + 10.0

---

##### LOW IDLE

Rated speed rpm : 300  
 Del. quantity cm<sup>3</sup>/1000 strokes : 10.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

ANSWER

L09

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 315

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1300AB1066  
: -9L  
Governor no. : 9 420 080 282

Cust. part No. : 019 074 51 02

## Customer-spec. information

Customer : MBB  
Motor : OM 366 A  
Power KW : 125.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.00

Tolerance mm :  $\pm$  0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 11.5

cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance

cm<sup>3</sup>/1000S. :  $\pm$  4.5

Spred

cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance

cm<sup>3</sup>/1000S. : 9.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve

travel mm : 1.05

Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1500

guide sleeve

travel mm : 8.55

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500

guide sleeve

travel mm : 2.55

Tolerance mm :  $\pm$  0.25

Rated speed rpm : 750

guide sleeve

travel mm : 4.20

Tolerance mm :  $\pm$  0.10

---

##### GUIDE SLEEVE POSITION

---

Rated speed rpm : 1500

Rack travel in mm : 16.50

Tolerance mm :  $\pm$  1.30

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

---

Rated speed rpm : 1300

Aneroid pressure

hPa : 800

Del. quantity

cm<sup>3</sup>/1000 strokes : 88.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

##### CONTROL LEVER

control lever  
position degree : 109.0

tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 9.40

Rated speed rpm : 1365

Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00

Rated speed rpm : 1485

Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50

Tolerance mm :  $\pm$  0.50

Rated speed rpm : 1650

---

##### LOW IDLE

control lever  
position degree : 68.0

tolerance degree :  $\pm$  4.0

##### Testing:

Rated speed rpm : 300

rack travel mm : 7.00

Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 375

---

##### TORQUE CONTROL

---

Rated speed rpm : 1300

rack travel mm : 10.45

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800

rack travel mm : 10.95

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 10.70  
Tolerance mm :  $\pm$  0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 800  
rack travel mm : 10.95  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Rated speed rpm : 500  
Pressure hPa : 300  
rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.10  
Pressure hPa : 460  
rack travel mm : 1.15  
Tolerance mm :  $\pm$  0.05

##### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220  
Check speed 1/min :  $>$  80  
Check speed 1/min :  $<$  240

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
hPa : 800  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 87.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 51.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### BREAKAWAY

Rack travel in mm : 9.40  
Rated speed rpm : 1365  
Tolerance 1/min :  $\pm$  5

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.70  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 1.5

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 317

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governer design. : RQV300...1300AB1066  
: -9L  
Governer no. : 9 420 080 282

Cust. part No. : 022 074 84 02

### Customer-spec. information

Customer : MBB  
Motor : OM 366 A  
Power KW : 125.0

### TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.00

Tolerance mm :  $\pm$  0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 11.5

cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance

cm<sup>3</sup>/1000S. :  $\pm$  4.5

Spread

cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance

cm<sup>3</sup>/1000S. : 9.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve

travel mm : 1.05

Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1500

guide sleeve

travel mm : 8.55

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500

guide sleeve

travel mm : 2.55

Tolerance mm :  $\pm$  0.25

Rated speed rpm : 750

guide sleeve

travel mm : 4.20

Tolerance mm :  $\pm$  0.10

---

##### GUIDE SLEEVE POSITION

---

Rated speed rpm : 1500

Rack travel in mm : 16.50

Tolerance mm :  $\pm$  1.30

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

---

Rated speed rpm : 1300

Aneroid pressure

hPa : 800

Del. quantity

cm<sup>3</sup>/1000 strokes : 88.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

##### CONTROL LEVER

control lever  
position degree : 109.0

tolerance degree :  $\pm$  4.0

---

##### RATED SPEED

rack travel mm : 9.40

Rated speed rpm : 1365

Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00

Rated speed rpm : 1485

Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50

Tolerance mm :  $\pm$  0.50

Rated speed rpm : 1650

---

##### LOW IDLE

control lever  
position degree : 68.0

tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300

rack travel mm : 7.00

Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

---

##### TORQUE CONTROL

Rated speed rpm : 1300

rack travel mm : 10.45

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800

rack travel mm : 10.95

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000

rack travel mm : 10.70  
Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 800  
rack travel mm : 10.95  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Rated speed rpm : 500  
Pressure hPa : 300  
rack travel mm : 0.50  
Tolerance mm : + - 0.10  
Pressure hPa : 460  
rack travel mm : 1.15  
Tolerance mm : + - 0.05

---

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220  
Check speed 1/min : > 80  
Check speed 1/min : < 240

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 800  
Del. quantity  
cm3/1000 strokes : 85.0  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.0  
Spread  
cm3/1000 strokes : 5.0  
Check tolerance  
cm3/1000S. : 8.0  
  
Aneroid pressure  
hPa : 800  
Rated speed rpm : 1000

Del. quantity  
cm3/1000 strokes : 87.5  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.0  
Spread  
cm3/1000 strokes : 5.0  
Check tolerance  
cm3/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 51.0  
cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 3.0  
Spread  
cm3/1000 strokes : 3.5  
Check tolerance  
cm3/1000S. : 8.0

---

##### BREAKAWAY

Rack travel in mm : 9.40  
Rated speed rpm : 1365  
Tolerance 1/min : + - 5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.70  
Tolerance mm : + - 0.10  
Del. quantity  
cm3/1000 strokes : 85.0  
cm3/1000 strokes : + - 7.5  
Check tolerance  
cm3/1000S. : + - 10.0

---

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 11.5  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.5  
Spread  
cm3/1000 strokes : 5.5  
Check tolerance  
cm3/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 319

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1400AB1066  
: -10L  
Governor no. : 9 420 080 287

Cust. part No. : 019 074 52 02

## Customer-spec. information

Customer : MBB  
Motor : OM 352 A  
Power KW : 141.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 006

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 78.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.00

Tolerance mm :  $\pm$  0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 11.0

cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance

cm<sup>3</sup>/1000S. :  $\pm$  4.5

Spred

cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance

cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve

travel mm : 1.05

Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1500

guide sleeve

travel mm : 8.55

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500

guide sleeve

travel mm : 2.55

Tolerance mm :  $\pm$  0.25

Rated speed rpm : 750

guide sleeve

travel mm : 4.20

Tolerance mm :  $\pm$  0.10

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50

Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400

Aneroid pressure

hPa : 700

Del. quantity

cm<sup>3</sup>/1000 strokes : 78.5

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 62.0

tolerance degree :  $\pm$  4.0

control lever  
position degree : 111.0

tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 8.50

Rated speed rpm : 1465

Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00

Rated speed rpm : 1550

Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50

Tolerance mm :  $\pm$  0.50

Rated speed rpm : 1650

##### LOW IDLE

control lever  
position degree : 67.0

tolerance degree :  $\pm$  4.0

control lever  
position degree : 19.0

tolerance degree :  $\pm$  4.0

##### Testing:

Rated speed rpm : 300

rack travel mm : 7.00

Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 485

##### TORQUE CONTROL

Rated speed rpm : 1400  
rack travel mm : 9.55  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 10.05  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 9.80  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 10.05  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 170  
rack travel mm : 0.55  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 330  
rack travel mm : 1.20  
Tolerance mm :  $\pm$  0.10

---

##### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220

Check speed 1/min :  $>$  80  
Check speed 1/min :  $<$  240

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 75.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
hPa : 700  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 79.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 42.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

##### BREAKAWAY

Rack travel in mm : 8.50  
Rated speed rpm : 1465  
Tolerance 1/min :  $\pm$  5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

##### LOW IDLE

Rated speed rpm : 300

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 329

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1300AB1256L  
Governor no. : 9 420 080 297

Cust. part No. : 020 074 74 02

## Customer-spec. information

Customer : MBB  
Motor : OM 366 LA  
Power KW : 150.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 006

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm3/1000 strokes : 11.0  
 cm3/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm3/1000S. :  $\pm$  4.5  
 Spread  
 cm3/1000 strokes : 5.5  
 Check tolerance  
 cm3/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm :  $\pm$  0.25  
  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05  
  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm :  $\pm$  0.25  
  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm :  $\pm$  0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm3/1000 strokes : 99.0  
 cm3/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm3/1000S. :  $\pm$  3.0  
 Spread

cm3/1000 strokes : 3.5  
 Check tolerance  
 cm3/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 60.0  
 tolerance degree :  $\pm$  4.0  
  
 control lever  
 position degree : 118.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 10.10  
 Rated speed rpm : 1365  
 Tolerance 1/min :  $\pm$  5  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1505  
 Tolerance 1/min :  $\pm$  15  
  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 74.0  
 tolerance degree :  $\pm$  4.0  
  
 control lever  
 position degree : 16.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 485

TORQUE CONTROL

Rated speed rpm : 1300  
 rack travel mm : 11.15

Tolerance mm : + 0.05  
 Rated speed rpm : 700  
 rack travel mm : 11.15  
 Tolerance mm : + 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
 Pressure hPa : 700  
 rack travel mm : 11.15  
 Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 rack travel mm : 9.55  
 Tolerance mm : + 0.15

Rated speed rpm : 500

Pressure hPa : 300  
 rack travel mm : 10.00  
 Tolerance mm : + 0.10

Pressure hPa : 450  
 rack travel mm : 10.65  
 Tolerance mm : + 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
 Rated speed rpm : < 220

Check speed 1/min : > 80  
 Check speed 1/min : < 240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 700  
 Rated speed rpm : 700  
 Del. quantity cm3/1000 strokes : 87.5  
 cm3/1000 strokes : + 2.0  
 Check tolerance cm3/1000S. : + 4.0  
 Spread cm3/1000 strokes : 5.0

Check tolerance cm3/1000S. : 8.0  
 Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm3/1000 strokes : 60.5  
 cm3/1000 strokes : + 1.0  
 Check tolerance cm3/1000S. : + 3.0  
 Spread cm3/1000 strokes : 3.5  
 Check tolerance cm3/1000S. : 8.0

#### BREAKAWAY

Rack travel in mm : 10.10  
 Rated speed rpm : 1365  
 Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 13.70  
 Tolerance mm : + 0.10  
 Del. quantity cm3/1000 strokes : 84.0  
 cm3/1000 strokes : + 7.5  
 Check tolerance cm3/1000S. : + 10.0

#### LOW IDLE

Rated speed rpm : 300  
 Del. quantity cm3/1000 strokes : 11.0  
 cm3/1000 strokes : + 2.0  
 Check tolerance cm3/1000S. : + 4.5  
 Spread cm3/1000 strokes : 5.5  
 Check tolerance cm3/1000S. : 9.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.96  
Test oil : ISO 4113

Combination No. : 9 400 085 363

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1300AB1277L  
Governor no. : 9 420 080 355

Cust. part No. : 025 074 28 02

### Customer-spec. information

Customer : MBB  
Motor : OM 366 A  
Power KW : 125.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x Length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 91.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.00

Tolerance mm :  $\pm$  0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 11.0

cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance

cm<sup>3</sup>/1000S. :  $\pm$  4.5

Spred

cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance

cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve

travel mm : 1.05

Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1500

guide sleeve

travel mm : 8.55

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500

guide sleeve

travel mm : 2.55

Tolerance mm :  $\pm$  0.25

Rated speed rpm : 750

guide sleeve

travel mm : 4.20

Tolerance mm :  $\pm$  0.10

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50

Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure

hPa : 800

Del. quantity

cm<sup>3</sup>/1000 strokes : 91.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 108.0

tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 9.50

Rated speed rpm : 1350

Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00

Rated speed rpm : 1475

Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50

Tolerance mm :  $\pm$  0.50

Rated speed rpm : 1650

##### LOW IDLE

control lever  
position degree : 68.0

tolerance degree :  $\pm$  4.0

##### Testing:

Rated speed rpm : 300

rack travel mm : 7.00

Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 325

##### TORQUE CONTROL

Rated speed rpm : 1300

rack travel mm : 10.55

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800

rack travel mm : 11.25

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
 rack travel mm : 11.00  
 Tolerance mm :  $\pm$  0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
 Pressure hPa : 800  
 rack travel mm : 11.45  
 Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 500  
 rack travel mm : 1.20  
 Tolerance mm :  $\pm$  0.10

Pressure hPa : 310  
 rack travel mm : 0.45  
 Tolerance mm :  $\pm$  0.05

##### START CUT-OUT

Rated speed rpm :  $>$  100  
 Rated speed rpm :  $<$  220

Check speed 1/min :  $>$  80  
 Check speed 1/min :  $<$  240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 800  
 Rated speed rpm : 800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 89.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
 hPa : 800  
 Rated speed rpm : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 91.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 62.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### BREAKAWAY

Rack travel in mm : 9.50  
 Rated speed rpm : 1350  
 Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 13.30  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 82.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  10.0

#### LOW IDLE

Rated speed rpm : 300  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.11.96  
Test oil : ISO 4113

Combination No. : 0 400 836 043

Injection pump  
Pump designation : PES6A100D320/3RS2691  
: -2  
EP type number : 9 410 230 028

Governor  
Governor design. : RQV350...1200AB1245R  
Governor no. : 0 420 213 118

Cust. part No. :

## Customer-spec. information

Customer : CDC  
Motor : 6CT830  
Power KW : 157.0

## TEST BENCH REQUIREMENTS

Inlet line : 2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 28.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Start of delivery blocking

\*NW after s.o.d. : 11.00  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.80  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

Rated speed rpm : 350

Rack travel in mm : 4.60  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
guide sleeve

travel mm : 0.10  
Tolerance mm : + 0.10

Rated speed rpm : 1200  
guide sleeve

travel mm : 6.90

Rated speed rpm : 350  
guide sleeve

travel mm : 1.25  
Tolerance mm : + 0.25

Rated speed rpm : 450  
guide sleeve

travel mm : 2.15  
Tolerance mm : + 0.25

Rated speed rpm : 1350  
guide sleeve

travel mm : 8.45  
Tolerance mm : + 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1250

Rack travel in mm : 16.50  
Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

##### CONTROL LEVER

control lever  
position degree : 44.0

tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 9.80  
Rated speed rpm : 1245

Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1330

Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50

Rated speed rpm : 1400

##### LOW IDLE

control lever  
position degree : 13.0

tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 350  
rack travel mm : 4.60

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 540

Tolerance 1/min : + 30

Rated speed rpm : 100  
CRT mm min. : > 9.00

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

#### TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 10.80  
Tolerance mm : ± 0.05

End of test specification sheet

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 300

#### BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1245  
Tolerance 1/min : ± 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : ± 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 161.0  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 10.0

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.10.96  
Test oil : ISO 4113

Combination No. : 0 400 846 231

Injection pump  
Pump designation : PES6A90D410RS2293  
EP type number : 0 410 896 031

Governor  
Governor design. : RQV300...1425AB740L  
Governor no. : 0 420 212 037

Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM352  
Power KW : 95.6

## TEST BENCH REQUIREMENTS

Inlet Line : 1.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance \*NW : ± 0.75

## BASIC SETTING

Del. quantity  
cm³/1000 strokes : 62.0

cm³/1000 strokes : ± 0.5

Check tolerance  
cm³/1000S. : ± 2.5

Spread  
cm³/1000 strokes : 3.0

Check tolerance  
cm³/1000S. : 4.5

Rated speed rpm : 300

Rack travel in mm : 7.60  
Tolerance mm : ± 0.10

Del. quantity  
cm³/1000 strokes : 12.0

cm³/1000 strokes : ± 3.0

Check tolerance  
cm³/1000S. : ± 5.0

Spread  
cm³/1000 strokes : 2.0

Check tolerance  
cm<sup>3</sup>/1000s. : 4.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1460  
guide sleeve  
travel mm : 8.50  
Tolerance mm : + - 0.10

Rated speed rpm : 550  
guide sleeve  
travel mm : 2.85  
Tolerance mm : + - 0.15

Rated speed rpm : 950  
guide sleeve  
travel mm : 5.35  
Tolerance mm : + - 0.15

Rated speed rpm : 775  
guide sleeve  
travel mm : 4.35  
Tolerance mm : + - 0.25

Rated speed rpm : 300  
guide sleeve  
travel mm : 0.95  
Tolerance mm : + - 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1420

Rack travel in mm : 16.50  
Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.0  
cm<sup>3</sup>/1000 strokes : + - 0.5  
Check tolerance  
cm<sup>3</sup>/1000s. : + - 2.5  
Spread  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 4.5

CONTROL LEVER

control lever  
position degree : 114.0  
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 8.70  
Rated speed rpm : 1460  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1550  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1700

LOW IDLE

control lever  
position degree : 68.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 7.60  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 9.10

Rated speed rpm : 445

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

BREAKAWAY

Rack travel in mm : 8.70  
Rated speed rpm : 1460  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.10  
Tolerance mm : + 0.20  
Del. quantity  
cm3/1000 strokes : 76.0  
cm3/1000 strokes : + 5.0  
Check tolerance  
cm3/1000S. : + 8.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 12.0  
cm3/1000 strokes : + 3.0  
Check tolerance  
cm3/1000S. : + 5.0  
Spred  
cm3/1000 strokes : 2.0  
Check tolerance  
cm3/1000S. : 4.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.11.96  
Test oil : ISO 4113

Combination No. : 0 400 846 522

Injection pump  
Pump designation : PES6A900410RS2667  
EP type number : 0 410 896 080

Governor  
Governor design. : RQV300...1400AB1065  
: -4L  
Governor no. : 0 420 212 168

Cust. part No. :

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM 366  
Power KW : 100.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 64.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

Rated speed rpm : 300

Rack travel in mm : 9.00  
Tolerance mm : + 0.10

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1450  
 guide sleeve  
 travel mm : 8.45  
 Tolerance mm : + 0.05  
 Rated speed rpm : 600  
 guide sleeve  
 travel mm : 3.20  
 Tolerance mm : + 0.80  
 Rated speed rpm : 650  
 guide sleeve  
 travel mm : 3.95  
 Tolerance mm : + 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 64.0  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

CONTROL LEVER

control lever  
 position degree : 112.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.10  
 Rated speed rpm : 1445  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1555  
 Tolerance 1/min : + 15  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 78.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 9.00  
 Tolerance mm : + 0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 10.30  
 Rated speed rpm : 610

TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 11.15  
 Tolerance mm : + 0.05  
 Rated speed rpm : 500  
 rack travel mm : 12.30  
 Tolerance mm : + 0.10  
 Rated speed rpm : 900  
 rack travel mm : 11.95  
 Tolerance mm : + 0.15  
 Rated speed rpm : 1100  
 rack travel mm : 11.55  
 Tolerance mm : + 0.15

START CUT-OUT

Rated speed rpm : > 100

Rated speed rpm : < 220  
Check speed 1/min : > 80  
Check speed 1/min : < 240

Spred  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 53.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

End of test specification sheet

Aneroid pressure  
hPa : -  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 56.5  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1445  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.20  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
cm<sup>3</sup>/1000 strokes : + 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 8.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.11.96  
Test oil : ISO 4113

Combination No. : 0 400 866 197

Injection pump  
Pump designation : PES6A100D320/3RS2691  
: -4  
EP type number : 9 410 230 030

Governor  
Governor design. : RSV450...1100A0C2238  
: -3R  
Governor no. : 0 420 233 330

Cust. part No. :

### Customer-spec. information

Customer : CDC  
Motor : 6 CT 830  
Power KW : 151.0

### TEST BENCH REQUIREMENTS

Inlet line : 2.

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

### BEGINNING OF DELIVERY

Test pressure bar : 28.0  
Tolerance bar : + 1.0

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check tolerance \*NW : + 0.75

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

Spread  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

Rated speed rpm : 450

Rack travel in mm : 5.70  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 18.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 120.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.5  
 Spreed  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.5

CONTROL LEVER

control lever  
 position degree : 96.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 4.00  
 Rated speed rpm : 1210

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1143  
 rack travel mm : 11.15

Rated speed rpm : 1200  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1360

Rated speed rpm : 1144  
 rack travel mm : 11.15

Rated speed rpm : 1201  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55

Rated speed rpm : 1145  
 rack travel mm : 11.15

Rated speed rpm : 1202  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55

Rated speed rpm : 1146  
 rack travel mm : 11.15

Rated speed rpm : 1203  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55

Rated speed rpm : 1147  
 rack travel mm : 11.15

Rated speed rpm : 1204  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55

Rated speed rpm : 1148  
 rack travel mm : 11.15

Rated speed rpm : 1205  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + 0.55

---

#### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 450  
rack travel mm : 5.20

#### Testing:

Rated speed rpm : 450  
rack travel mm : 5.70  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 515  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.15  
Tolerance mm : + 0.05

Rated speed rpm : 750  
rack travel mm : 13.10  
Tolerance mm : + 0.10

Rated speed rpm : 1100  
rack travel mm : 11.15  
Tolerance mm : + 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 13.10  
Tolerance mm : + 0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

rack travel mm : 10.45  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 560  
rack travel mm : 12.35  
Tolerance mm : + 0.20

Pressure hPa : 385  
rack travel mm : 11.45  
Tolerance mm : + 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 137.5  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 82.5  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 3.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00  
Del. quantity cm<sup>3</sup>/1000 strokes : 146.0  
cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance cm<sup>3</sup>/1000S. : + 13.0

---

#### LOW IDLE

Rated speed rpm : 450  
Del. quantity cm<sup>3</sup>/1000 strokes : 18.0  
cm<sup>3</sup>/1000 strokes : + 2.0

---

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.08.96  
Test oil : ISO 4113

Combination No. : 0 400 844 047

Injection pump  
Pump designation : PES4A90D410RS2294  
EP type number : 0 410 894 011

Governor  
Governor design. : RQV300...1425AB740L  
Governor no. : 0 420 212 037

Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 314  
Power KW : 62.5

## TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

## BASIC SETTING

Del. quantity  
cm3/1000 strokes : 63.0

cm3/1000 strokes : + 0.5

Check tolerance  
cm3/1000S. : + 2.5

Spread  
cm3/1000 strokes : 3.0

Check tolerance  
cm3/1000S. : 4.5

Rated speed rpm : 300

Rack travel in mm : 7.30  
Tolerance mm : + 0.10

Del. quantity  
cm3/1000 strokes : 12.0  
cm3/1000 strokes : + 3.0

Check tolerance  
cm3/1000S. : + 5.0

Spread  
cm3/1000 strokes : 2.0

Check tolerance  
cm3/1000S. : 4.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1460  
guide sleeve travel mm : 8.50  
Tolerance mm : + - 0.10

Rated speed rpm : 550  
guide sleeve travel mm : 2.85  
Tolerance mm : + - 0.15

Rated speed rpm : 950  
guide sleeve travel mm : 5.35  
Tolerance mm : + - 0.15

Rated speed rpm : 775  
guide sleeve travel mm : 4.35  
Tolerance mm : + - 0.25

Rated speed rpm : 300  
guide sleeve travel mm : 0.95  
Tolerance mm : + - 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1420  
Rack travel in mm : 16.50  
Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
Aneroid pressure hPa : -  
Del. quantity cm<sup>3</sup>/1000 strokes : 63.0  
cm<sup>3</sup>/1000 strokes : + - 0.5  
Check tolerance cm<sup>3</sup>/1000S. : + - 2.5  
Spread cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance cm<sup>3</sup>/1000S. : 4.5

CONTROL LEVER

control lever position degree : 118.0  
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 8.70  
Rated speed rpm : 1460  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1550  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1700

LOW IDLE

control lever position degree : 70.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 7.30  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 8.80

Rated speed rpm : 445

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

BREAKAWAY

Rack travel in mm : 8.70  
Rated speed rpm : 1460

Tolerance 1/min : + - 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.00  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.0  
cm<sup>3</sup>/1000 strokes : + - 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 8.0

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Speed  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.11.96  
Test oil : ISO 4113

Combination No. : 0 400 846 185

Injection pump  
Pump designation : PES6A80D410RS2085Y  
EP type number : 0 410 886 044

Governor  
Governor design. : RQV300...1475AB533DL  
Governor no. : 0 420 214 069

Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 352

## TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.20  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1450

Rack travel in mm : 8.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 46.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0

Spread  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

Rated speed rpm : 300

Rack travel in mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 14.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  3.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.04  
 Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1516  
 guide sleeve  
 travel mm : 8.76  
 Tolerance mm :  $\pm$  0.15

Rated speed rpm : 997  
 guide sleeve  
 travel mm : 5.19  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 590  
 guide sleeve  
 travel mm : 3.20  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1790  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1420

Rack travel in mm : 16.50  
Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1450  
Aneroid pressure  
hPa : -

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 46.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  2.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

CONTROL LEVER

control lever  
 position degree : 114.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 7.20  
 Rated speed rpm : 1510  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
 Rated speed rpm : 1575  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1700

LOW IDLE

control lever  
 position degree : 69.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 8.20

Rated speed rpm : 440

TORQUE CONTROL

Rated speed rpm : 1450  
 rack travel mm : 8.25  
 Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
rack travel mm : 9.25  
Tolerance mm :  $\pm$  0.05

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 800  
rack travel mm : 9.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1200  
rack travel mm : 8.35  
Tolerance mm :  $\pm$  0.15

End of test specification sheet

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

#### BREAKAWAY

Rack travel in mm : 7.20  
Rated speed rpm : 1510  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.10  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 14.09.96  
Test oil : ISO 4113

Combination No. : 0 400 876 218

Injection pump  
Pump designation : PES6A90D410RS2293  
EP type number : 0 410 896 031

Governor  
Governor design. : RSV350...1400A0C1080  
: L  
Governor no. : 0 420 232 408

Cust. part No. :

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM 352  
Power KW : 92.0

## TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 :  
Tolerance bar : + 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.75  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

Rated speed rpm : 350

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spred  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.5  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5  
Spred  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

CONTROL LEVER

control lever  
position degree : 118.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1570

rack travel mm : 4.00  
Rated speed rpm : 1525

rack travel mm : 8.70  
Rated speed rpm : 1450  
Tolerance 1/min : + 5

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 6.80

Testing:

rack travel mm : 2.00  
Rated speed rpm : 2775  
Tolerance 1/min : + 2325

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1400  
rack travel mm : 9.75  
Tolerance mm : + 0.05

Rated speed rpm : 600  
rack travel mm : 10.00  
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 57.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.20  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
cm<sup>3</sup>/1000 strokes : + 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 8.0

---

LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spred  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.08.95  
Test oil : ISO 4113

Combination No. : 0 400 464 105

Injection pump  
Pump designation : PES4A80D320/3RS1301  
EP type number : 0 410 484 016

Governor  
Governor design. : RSV325...1500A2C505R  
Governor no. : 0 420 233 187

Cust. part No. :

## Customer-spec. information

Customer : MWM  
Motor : D226-4

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet :  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

## BASIC SETTING

Del. quantity  
cm3/1000 strokes : 48.5

cm3/1000 strokes : + 0.5

Check tolerance  
cm3/1000S. : + 2.0

Spread  
cm3/1000 strokes : 2.5

Check tolerance  
cm3/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 7.00  
Tolerance mm : + 0.10

Del. quantity  
cm3/1000 strokes : 13.0

cm3/1000 strokes : + 3.0

Check tolerance  
cm3/1000S. : + 4.5

Spread  
cm3/1000 strokes : 2.0

Check tolerance  
cm3/1000S. : 3.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm :  $\pm$  0.35

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1480  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 48.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  0.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  2.0  
Spread  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

CONTROL LEVER

control lever  
position degree : 55.0  
tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 8.00  
Rated speed rpm : 1525  
Tolerance 1/min :  $\pm$  5  
  
rack travel mm : 4.00  
Rated speed rpm : 1560  
Tolerance 1/min :  $\pm$  15  
  
rack travel mm : 1.00  
Tolerance mm :  $\pm$  0.70  
Rated speed rpm : 1720  
  
rack travel mm : 4.00  
Rated speed rpm : 1570

LOW IDLE

control lever  
position degree : 16.0

tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 7.50

Testing:

Rated speed rpm : 325  
rack travel mm : 7.00  
Tolerance mm :  $\pm$  0.10  
  
rack travel mm : 2.00  
Rated speed rpm : 475  
Tolerance 1/min :  $\pm$  30

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80

BREAKAWAY

Rack travel in mm : 8.00  
Rated speed rpm : 1525  
Tolerance 1/min :  $\pm$  5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  5.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  8.0

LOW IDLE

Rated speed rpm : 325  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5

Spread  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.5

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.11.96  
Test oil : ISO 4113

Combination No. : 0 400 844 081

Injection pump  
Pump designation : PES4A90D410RS2570  
EP type number : 0 410 894 023

Governor  
Governor design. : RQV300...1400AB1111  
: -3L  
Governor no. : 0 420 212 159

Cust. part No. :

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM 314  
Power KW : 57.0

## TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

Rated speed rpm : 300

Rack travel in mm : 8.70  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Speed  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.05  
Tolerance mm : + - 0.25

Rated speed rpm : 1500  
guide sleeve  
travel mm : 8.55  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
guide sleeve  
travel mm : 2.55  
Tolerance mm : + - 0.25

Rated speed rpm : 750  
guide sleeve  
travel mm : 4.30  
Tolerance mm : + - 0.20

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50  
Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.5  
cm<sup>3</sup>/1000 strokes : + - 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 2.5  
Speed  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

CONTROL LEVER

control lever  
position degree : 59.0  
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 9.50  
Rated speed rpm : 1445  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1550  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1650

LOW IDLE

control lever  
position degree : 24.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 8.70  
Tolerance mm : + - 0.10

Rated speed rpm : 605

TORQUE CONTROL

Rated speed rpm : 1400  
rack travel mm : 10.55  
Tolerance mm : + - 0.05

Rated speed rpm : 400  
rack travel mm : 11.25  
Tolerance mm : + - 0.05

Rated speed rpm : 600  
rack travel mm : 11.10  
Tolerance mm : + - 0.10

Rated speed rpm : 1000  
rack travel mm : 5.75  
Tolerance mm : + - 4.85

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 400  
Del. quantity  
cm3/1000 strokes : 45.0  
cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 3.0  
Spread  
Check tolerance  
cm3/1000S. : 5.5

---

#### BREAKAWAY

Rack travel in mm : 9.50  
Rated speed rpm : 1445  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.60  
Tolerance mm : + - 0.20  
Del. quantity  
cm3/1000 strokes : 76.0  
cm3/1000 strokes : + - 5.0  
Check tolerance  
cm3/1000S. : + - 8.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 13.0  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.0  
Spread

cm3/1000 strokes : 2.0  
Check tolerance  
cm3/1000S. : 4.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 14.11.96  
Test oil : ISO 4113

Combination No. : 0 400 844 087

Injection pump  
Pump designation : PES4A90D410RS2666  
EP type number : 0 410 894 029

Governor  
Governor design. : RQV300...1400AB1065  
: -5L  
Governor no. : 0 420 212 169

Cust. part No. :

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM364  
Power KW : 66.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.95  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spred  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

Rated speed rpm : 300

Rack travel in mm : 8.70  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.05  
Tolerance mm : + 0.25

Rated speed rpm : 1500  
guide sleeve  
travel mm : 8.55  
Tolerance mm : + 0.05

Rated speed rpm : 500  
guide sleeve  
travel mm : 2.55  
Tolerance mm : + 0.25

Rated speed rpm : 750  
guide sleeve  
travel mm : 4.20  
Tolerance mm : + 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.5  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5  
Spread  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

CONTROL LEVER

control lever  
position degree : 116.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.90  
Rated speed rpm : 1455  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1575  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1700

LOW IDLE

control lever  
position degree : 76.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 8.70  
Tolerance mm : + 0.10

Rated speed rpm : 100  
CRT mm min. : > 10.20

Rated speed rpm : 610

TORQUE CONTROL

Dimension a mm : 1.00  
Rated speed rpm : 1400  
rack travel mm : 10.95  
Tolerance mm : + 0.05

Rated speed rpm : 630  
rack travel mm : 12.25  
Tolerance mm : + 0.05

Rated speed rpm : 900  
rack travel mm : 11.70  
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 630  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 57.0  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

##### Aneroid pressure

hPa : -  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 56.0  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 9.90  
Rated speed rpm : 1455  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.20  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
cm<sup>3</sup>/1000 strokes : + - 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 8.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.11.96  
Test oil : ISO 4113

Combination No. : 0 400 844 091

Injection pump  
Pump designation : PES4A90D410RS2666  
EP type number : 0 410 894 029

Governor  
Governor design. : RQV300...1400AB1065  
: -12L  
Governor no. : 0 420 212 207

Cust. part No. :

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM364  
Power KW : 61.0

## TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.30  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.55  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 59.5

cm3/1000 strokes : + 0.5

Check tolerance  
cm3/1000s. : + 2.5

Spread  
cm3/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 300

Rack travel in mm : 8.70

Tolerance mm : + 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 10.0

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred

cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 59.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spred

cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever

position degree : 111.0

tolerance degree : + 6.0

##### RATED SPEED

rack travel mm : 9.50

Rated speed rpm : 1445

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1550

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1650

##### LOW IDLE

control lever

position degree : 74.0

tolerance degree : + 6.0

##### Testing:

Rated speed rpm : 300

rack travel mm : 8.70

Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 10.20

Rated speed rpm : 610

##### TORQUE CONTROL

Rated speed rpm : 1400

rack travel mm : 10.55

Tolerance mm : + 0.05

Rated speed rpm : 475

rack travel mm : 11.55

Tolerance mm : + 0.05

Rated speed rpm : 850

rack travel mm : 11.00

Tolerance mm : + 0.10

##### START CUT-OUT

Rated speed rpm : > 100

Rated speed rpm : < 220

Check

speed 1/min : > 80

Check

speed 1/min : < 240

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -

Rated speed rpm : 475

Del. quantity

cm<sup>3</sup>/1000 strokes : 46.0

cm<sup>3</sup>/1000 strokes : + 1.5

Check tolerance

cm<sup>3</sup>/1000S. : + 3.5

Aneroid pressure  
hPa : -  
Rated speed :pm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 49.0  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.5

---

#### BREAKAWAY

Rack travel in mm : 9.50  
Rated speed rpm : 1445  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.20  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
cm<sup>3</sup>/1000 strokes : + - 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 10.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.11.96  
Test oil : ISO 4113

Combination No. : 0 400 844 099

Injection pump  
Pump designation : PES4A95D410RS2837  
EP type number : 0 410 894 991

Governor  
Governor design. : RGV300...1400AB1065  
: -29L  
Governor no. : 0 420 212 247

Cust. part No. : 024 074 48 02

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM 364  
Power KW : 65.0

## TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

## BASIC SETTINGS

Rated speed rpm : 1400

Rack travel in mm : 8.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 72.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

NO7

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.35  
 Tolerance mm : + 0.25

Rated speed rpm : 1453  
 guide sleeve  
 travel mm : 8.77  
 Tolerance mm : + 0.25

Rated speed rpm : 921  
 guide sleeve  
 travel mm : 5.42  
 Tolerance mm : + 0.25

Rated speed rpm : 367  
 guide sleeve  
 travel mm : 2.41  
 Tolerance mm : + 0.25

Rated speed rpm : 417  
 guide sleeve  
 travel mm : 3.01  
 Tolerance mm : + 0.25

Rated speed rpm : 490  
 guide sleeve  
 travel mm : 3.42  
 Tolerance mm : + 0.25

Rated speed rpm : 1740  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 72.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 113.0  
 tolerance degree : + 6.0

RATED SPEED

rack travel mm : 7.85  
 Rated speed rpm : 1445  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1520  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : + 6.0

Setting point w/out bumper spring

Rated speed rpm : 300  
 rack travel mm : 5.00

Testing:

Rated speed rpm : 100  
 CRT mm min. : > 6.50  
 Rated speed rpm : 350

---

#### TORQUE CONTROL

Rated speed rpm : 1400  
rack travel mm : 8.85  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
rack travel mm : 8.90  
Tolerance mm :  $\pm$  0.10

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 52.5  
cm3/1000 strokes :  $\pm$  2.0  
Check tolerance cm3/1000S. :  $\pm$  4.0

---

#### BREAKAWAY

Rack travel in mm : 7.85  
Rated speed rpm : 1445  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.50  
Tolerance mm :  $\pm$  0.20  
Del. quantity cm3/1000 strokes : 83.0  
cm3/1000 strokes :  $\pm$  7.5  
Check tolerance cm3/1000S. :  $\pm$  10.0

---

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm3/1000 strokes : 12.0  
cm3/1000 strokes :  $\pm$  2.0  
Check tolerance cm3/1000S. :  $\pm$  4.5  
Spread cm3/1000 strokes : 5.5  
Check tolerance cm3/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 19.11.96  
Test oil : ISO 4113

Combination No. : 0 400 846 559

Injection pump  
Pump designation : PES6A90D410RS2710  
EP type number : 0 410 896 082

Governor  
Governor design. : RQV300...1400AB1065  
: -9L  
Governor no. : 0 420 212 202

Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 366  
Power KW : 92.0

## TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.30  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.35  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 300  
 Rack travel in mm : 8.80  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

**(B) SETTING OF INJECTION PUMP WITH GOVERNOR**

**GUIDE SLEEVE POSITION**

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

**FULL LOAD DELIVERY AT FULL LOAD STOP**

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 59.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  2.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

**CONTROL LEVER**

control lever  
 position degree : 109.0  
 tolerance degree :  $\pm$  6.0

**RATED SPEED**

rack travel mm : 9.30  
 Rated speed rpm : 1445  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
 Rated speed rpm : 1555

Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1650

**LOW IDLE**

control lever  
 position degree : 73.0  
 tolerance degree :  $\pm$  6.0

**Testing:**

Rated speed rpm : 300  
 rack travel mm : 8.80  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 100  
 CRT mm min. :  $>$  10.30  
 Rated speed rpm : 655

**TORQUE CONTROL**

Rated speed rpm : 1400  
 rack travel mm : 10.35  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 500  
 rack travel mm : 11.40  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 750  
 rack travel mm : 11.10  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 1100  
 rack travel mm : 10.40  
 Tolerance mm :  $\pm$  0.15

**START CUT-OUT**

Rated speed rpm :  $>$  100  
 Rated speed rpm :  $<$  220  
 Check  
 speed 1/min :  $>$  80  
 Check  
 speed 1/min :  $<$  240

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 46.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 49.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

---

#### BREAKAWAY

Rack travel in mm : 9.30  
Rated speed rpm : 1445  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.20  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
cm<sup>3</sup>/1000 strokes : + 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 10.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.11.96  
Test oil : ISO 4113

Combination No. : 0 400 846 616

Injection pump  
Pump designation : PES6A95D410RS2844  
EP type number : 0 410 896 893

Governor  
Governor design. : RQV300...1400AB1065  
: -32L  
Governor no. : 0 420 212 248

Cust. part No. : 025 074 5902

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM 366  
Power KW : 95.0

## TEST BENCH REQUIREMENTS

Inlet Line : 2.3

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.70  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 67.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 300

Rack travel in mm : 5.90  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

---

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.06  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1452  
guide sleeve  
travel mm : 8.03  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 593  
guide sleeve  
travel mm : 3.46  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 643  
guide sleeve  
travel mm : 3.84  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1030  
guide sleeve  
travel mm : 5.33  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1820  
guide sleeve  
travel mm : 11.50  
Tolerance mm :  $\pm$  0.50

---

GUIDE SLEEVE POSITION

---

Rated speed rpm : 1450

Rack travel in mm : 16.50  
Tolerance mm :  $\pm$  1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

---

Rated speed rpm : 1400  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 67.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

CONTROL LEVER

---

control lever  
position degree : 116.0  
tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 8.70  
Rated speed rpm : 1445  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1535  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1650

---

LOW IDLE

---

control lever  
position degree : 68.0  
tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 6.50

---

TORQUE CONTROL

---

Rated speed rpm : 1400  
rack travel mm : 9.70  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 9.75  
Tolerance mm : + - 0.15

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 50.0  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 8.70  
Rated speed rpm : 1445  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.40  
Tolerance mm : + - 0.20  
Del. quantity cm<sup>3</sup>/1000 strokes : 88.0  
cm<sup>3</sup>/1000 strokes : + - 5.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 8.0

---

#### LOW IDLE

Rated speed rpm : 300

Del. quantity cm<sup>3</sup>/1000 strokes : 10.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
Spread cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.11.96  
Test oil : ISO 4113

Combination No. : 0 400 876 310

Injection pump  
Pump designation : PES6A90D410RS2596  
EP type number : 0 410 896 073

Governor  
Governor design. : RSV350...1200A0C1148  
: -1L  
Governor no. : 0 420 232 456

Cust. part No. :

### Customer-spec. information

Customer : MB-NFZ  
Motor : OM352A  
Power KW : 110.0

### TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

### BASIC SETTING

Rated speed rpm : 1180

Rack travel in mm : 12.15  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 73.5

cm3/1000 strokes : + 0.5

Check tolerance  
cm3/1000S. : + 2.5

Spread  
cm3/1000 strokes : 3.0

Check tolerance  
cm3/1000S. : 5.0

Rated speed rpm : 350

Del. quantity  
cm3/1000 strokes : 14.0  
cm3/1000 strokes : + 2.0

Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
 Tolerance mm : + 0.20

governor spring  
 pre-tension  
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1180  
 Aneroid pressure hPa : 900  
 Del. quantity cm<sup>3</sup>/1000 strokes : 73.5  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance cm<sup>3</sup>/1000S. : + 2.5  
 Spread cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : 5.0

CONTROL LEVER

control lever position degree : 111.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1460  
 rack travel mm : 4.00  
 Rated speed rpm : 1360

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 8.50

Testing:

rack travel mm : 2.00  
 Rated speed rpm : 510  
 Tolerance 1/min : + 30  
 Rated speed rpm : 100  
 CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1180  
 rack travel mm : 12.15  
 Tolerance mm : + 0.05  
 Rated speed rpm : 725  
 rack travel mm : 13.65  
 Tolerance mm : + 0.05  
 Rated speed rpm : 900  
 rack travel mm : 13.10  
 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
 Pressure hPa : 900  
 rack travel mm : 13.55  
 Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 rack travel mm : 11.55  
 Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 235  
 rack travel mm : 12.10  
 Tolerance mm : + 0.10

Pressure hPa : 450  
 rack travel mm : 12.65  
 Tolerance mm : + 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : 900  
Rated speed rpm : 725  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 81.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

##### Aneroid pressure

hPa : 900  
Rated speed rpm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spred  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

##### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 16.20  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
cm<sup>3</sup>/1000 strokes : + 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 8.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.11.96  
Test oil : ISO 4113

Combination No. : 0 402 034 701

Injection pump  
Pump designation : PES4P120B120RS3379  
EP type number : 0 412 024 702

Governor  
Governor design. : RQV475...1250PA1316K  
Governor no. : 0 421 815 544

Cust. part No. : 3928600

## Customer-spec. information

Customer : CDC  
Motor : 4BTA-A  
Power KW : 97.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 7.00  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 143.0

cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 475  
 Rack travel in mm : 5.50  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 26.5  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 475  
 guide sleeve travel mm : 1.59  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1315  
 guide sleeve travel mm : 9.12  
 Tolerance mm : + 0.15  
 Rated speed rpm : 985  
 guide sleeve travel mm : 6.26  
 Tolerance mm : + 0.25  
 Rated speed rpm : 680  
 guide sleeve travel mm : 3.62  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1660  
 guide sleeve travel mm : 13.50  
 Tolerance mm : + 0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 143.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever position degree : 117.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.50  
 Rated speed rpm : 1315  
 Tolerance 1/min : + 15

rack travel mm : 6.00  
 Rated speed rpm : 1390  
 Tolerance 1/min : + 5

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1500

##### LOW IDLE

control lever position degree : 73.0  
 tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 475  
 rack travel mm : 5.50  
 Tolerance mm : + 0.10

Rated speed rpm : 400

CRT mm min. : > 6.80

Rated speed rpm : 550

---

#### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 11.55  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 11.20  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 550  
rack travel mm : 10.80  
Tolerance mm :  $\pm$  0.20

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 9.45  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1250

Pressure hPa : 800  
rack travel mm : 10.50  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 680  
rack travel mm : 9.85  
Tolerance mm :  $\pm$  0.20

---

##### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  375

Check speed 1/min :  $>$  80  
Check speed 1/min :  $<$  385

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750

Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 111.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

##### BREAKAWAY

Rack travel in mm : 10.50  
Rated speed rpm : 1315  
Tolerance 1/min :  $\pm$  15

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 176.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

---

##### LOW IDLE

Rated speed rpm : 475  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.06.95  
Test oil : ISO 4113

Combination No. : 0 400 866 179

Injection pump  
Pump designation : PES6A100D320/3RS2691  
EP type number : 9 410 230 025

Governor  
Governor design. : RSV550...1100A002238  
: -2R  
Governor no. : 0 420 233 296

Cust. part No. : 3923479

## Customer-spec. information

Customer : CDC  
Motor : 6CTA-830  
Power KW : 157.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10  
Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 11.00  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 124.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.5  
 Rack travel in mm : 5.70  
 Tolerance mm : + 0.10

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 124.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.5

CONTROL LEVER

control lever  
 position degree : 97.0  
 tolerance degree : + 4.0

RATED SPEED

N24

rack travel mm : 11.70  
 Rated speed rpm : 1170  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1230  
 Tolerance 1/min : + 5  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1400  
 rack travel mm : 4.00  
 Rated speed rpm : 1240

LOW IDLE

control lever  
 position degree : 79.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 550  
 rack travel mm : 5.20

Testing:

Rated speed rpm : 550  
 rack travel mm : 5.70  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 12.75  
 Tolerance mm : + 0.05

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
 Pressure hPa : 900  
 rack travel mm : 12.75  
 Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.90  
Tolerance mm : + 0.10

Rated speed rpm : 1100

Pressure hPa : 465  
rack travel mm : 12.20  
Tolerance mm : + 0.20

Pressure hPa : 340  
rack travel mm : 11.25  
Tolerance mm : + 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.5  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 2.5

---

#### BREAKAWAY

Rack travel in mm : 11.70  
Rated speed rpm : 1170  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 15.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.05.95  
Test oil : ISO 4113

Combination No. : 0 400 866 183

Injection pump  
Pump designation : PES6A100D320/3RS2763  
EP type number : 0 410 806 006

Governor  
Governor design. : RSV400...1100A0C2190  
: -61R  
Governor no. : 0 420 233 300

Cust. part No. : 3921100

### Customer-spec. information

Customer : CDC  
Motor : 6CT 8.3  
Power KW : 111.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

### Start of delivery mark

\*NW after s.o.d. : 11.00  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 9.75  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 89.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 6.5  
 Rack travel in mm : 5.00  
 Tolerance mm : + 0.10

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 89.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 6.5

CONTROL LEVER

control lever position degree : 110.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.70  
 Rated speed rpm : 1150  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1235  
 Tolerance 1/min : + 5  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1300  
 rack travel mm : 4.00  
 Rated speed rpm : 1240

LOW IDLE

control lever position degree : 89.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
 rack travel mm : 4.50

Testing:

Rated speed rpm : 400  
 rack travel mm : 5.00  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 9.75  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 10.80  
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 98.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + - 4.0

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#### BREAKAWAY

Rack travel in mm : 8.70  
Rated speed rpm : 1150  
Tolerance 1/min : + - 5

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#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + - 15.0

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End of test specification sheet